ORDER NO. AD0202035C2

Tuner/ Amplifier

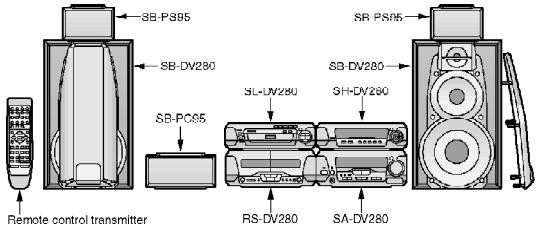
SA-DV280EG / SA-DV280EB

Colour

(N).....Gold Type

System: SC-DV280

Because of unique interconnecting cables, when a compact requires service, send or bring in the entire system.



SPECIFICATIONS

Specification

● **Amplifier Section**

Power output (Low frequency side)

DIN 100Hz, THD 1%, 8 Ω both channels driven:	**2x45W**
RMS 100Hz, THD 10%, 8 Ω both channels driven:	**2x65W**

Power output (High frequency side)

DIN 1kHz, THD 1%, 6 Ω both channels driven:	**2x25W**
RMS 1kHz, THD 10%, 6 Ω both channels driven:	**2x35W**

Power output (prologic mode)

DIN	**(front: high frequency) 1kHz, THD 1%, 6 Ω both channels driven:**	**2x25W**
	(front: low frequency) 100Hz, THD 1%, 8 Ω both channels driven:	**2x45W**
	(surround) 1kHz, THD 1%, 8 Ω both channels driven:	**2x30W**
	(center) 1kHz, THD 1%, 8 Ω :	**60W**
RMS	**(front: high frequency) 1kHz, THD 10%, 6 Ω both channels driven:**	**2x35W**
	(front: low frequency) 100Hz, THD 10%, 8 Ω both channels driven:	**2x65W**
	(surround) 1kHz, THD 10%, 8 Ω both channels driven:	**2x40W**
	(center) 1kHz, THD 10%, 8 Ω :	**80W**

Total harmonic distorition	
Rated power at 1kHz/ 6 Ω :	**1%**
Half power at 1kHz/ 6 Ω :	**0.1%**

Load impedance

Front	**(high frequency):**	**6 Ω**
	(low frequency):	**8 Ω**
Surround:		**8 Ω**
Center:		**8 Ω**

Digital S.WOOFER

Center frequency:	**60Hz**
LEVEL (VOL -20dB):	**MID +3dB** **MAX +6dB**

● **FM tuner section**

Frequency range:	**87.50-108.00MHz (0.05MHz steps)**
Sensitivity:	**1.8 μ V (IHF usable)**
S/N 26dB:	**1.5 μ V**
S/N:	**MONO 70dB (75dB, IHF)**
Antenna terminals:	**75 Ω (unbalanced)**

● **AM tuner section**

Frequency range:	**552-1629kHz (9kHz steps) 520-1630kHz (10kHz steps)**
Sensitivity (S/N 20dB):	**500 μ V/m**

● **Timer section**

Clock:	**Quartz-lock type**
Function:	**Play timer (1 time, daily) Rec timer (1 time, daily) Sleep (120 min., 30min., intervals)**
Setting intervals (PLAY/REC)	**1 min., -23hours 59 min., (1 min. intervals)**

● **General**

Power consumption	**230W**
STANDBY condition	**0.5W**
Power supply	
[For (EG) area]:	**AC230V,50Hz**
[For (EB) area]:	**AC230-240V,50Hz**
Dimensions (WxHxD):	**293x118.5x345mm**
Weight:	**5.3kg**

Notes:

1.Design and specifications are subject to change without notice.

2.Dimensions and weight are approximate.

3.Total harmonic distortion is measured by the digital spectrum analyzer.

● **System/SC-DV280:**

Sound processor: SH-DV280, DVD/ Video CD/ CD changer: SL-DV280, Tuner/ Amplifier: SE-DV280 , Cassette Deck: RS-DV280, Speakers: Front* (SB-DV280), Center* (SB-PC95),Surround* (SB-PS95) (*Made in MAES.)

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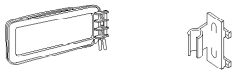
Technics

1. Accessories

• FM indoor antenna·····1pc.
(RSA0007)

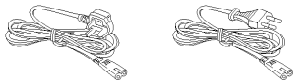
• AM loop antenna set·····1pc.
(RSA0022-L)



• Remote control transmitter·····1pc.
(EUR7702140)

• Speaker cord
(REE0853)·····2pcs.
(REE1057)·····2pcs.

• AC power supply cord·····1pc.
For (EB) area: (RJA0053-3X)
For (EG) area: (RJA0019-2X)



• Antenna plug adaptor·····1pc.
For (EB) area only
(SJP9009)

• Remote control batteries·····2pcs.
Note: These are available on sales root.

• Pin cord...1pc.
(RJL1P019B15)

• RCAJ adaptor·····1pc.
(VFA0151-2)

2. Before Repair and Adjustment

1. Turn off the power supply. Using a 10 Ω , 10W resistor, connect both ends of power supply capacitors (C701-704) in order to discharge the voltage.

2. Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respectto supply

voltage 230 V/240 V.

Areas	(EG)		(EB)	
Power supply voltage	AC 230V		AC 230-240V	
Consumed current	50 Hz	130-380 mA	50 Hz	130-380 mA

3. About the Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:
***No sound is heard when the power is supplied.**
***Sound stops during a performance.**
The functions of this circuitry is to prevent circuitry damage, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedande less than the indicated rated impedance of thisunit are used.
If this occurs, follow the procedure outlined below:

1. Press the STANDBY⏻/ON button, switch to STANDBY mode.

2. Determine the cause of the problem and correct it.

3. Press the STANDBY⏻/ON button once again, supply the power.

Note:

When the protection circuitry functions, the unit will not operate unless the STANDBY⏻/ON button is first switched STANDBY and then ON again.

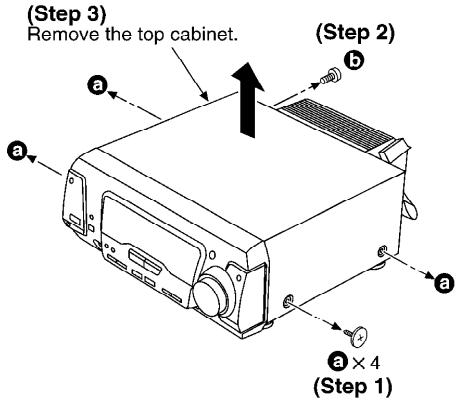
4. Caution for AC Main Lead

5. Operating Instructions

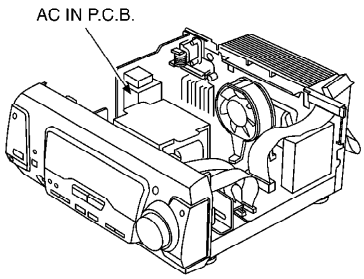
6. Operation Checks and Component Replacement Procedures

- **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
- **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**

6.1. Checking for the AC IN P.C.B.

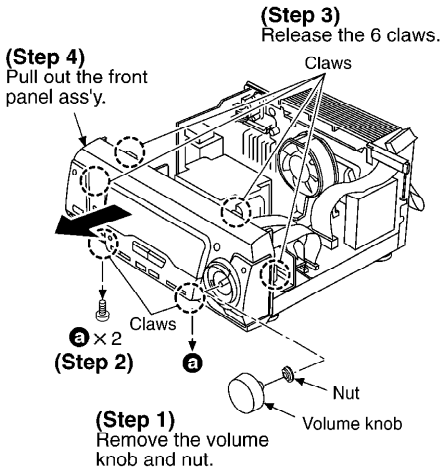


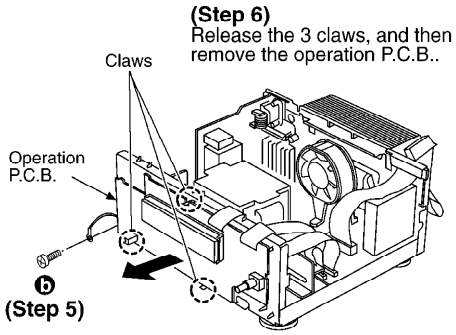
- Check the AC IN P.C.B. as shown below.



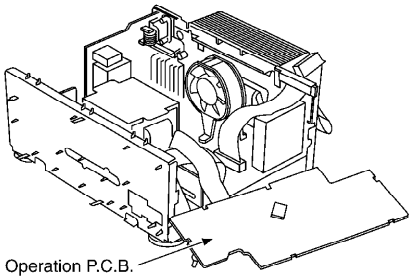
6.2. Checking for the operation P.C.B.

- Follow the (Step 1) - (Step 3) of item 6.1.





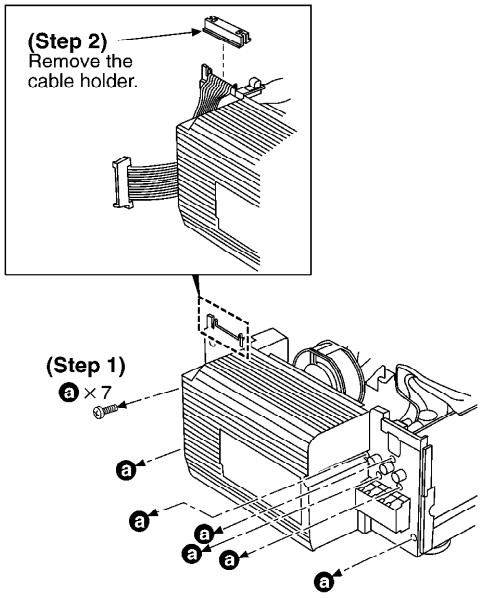
- Check the operation P.C.B. as shown below.



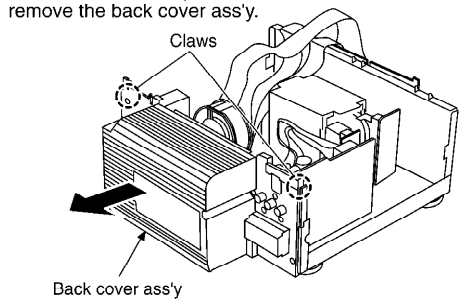
6.3. Checking for the main P.C.B.

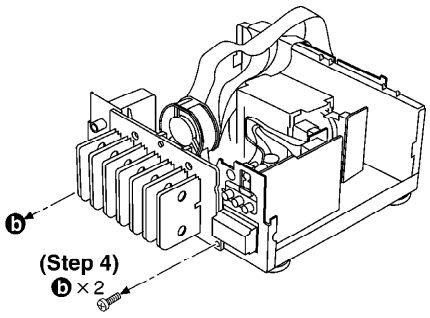
- Follow the (Step 1) - (Step 3) of item 6.1.

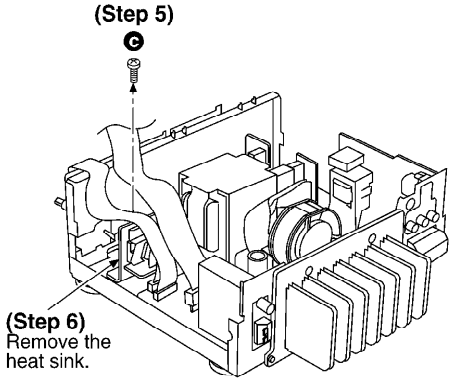
- Follow the (Step 1) - (Step 6) of item 6.2.

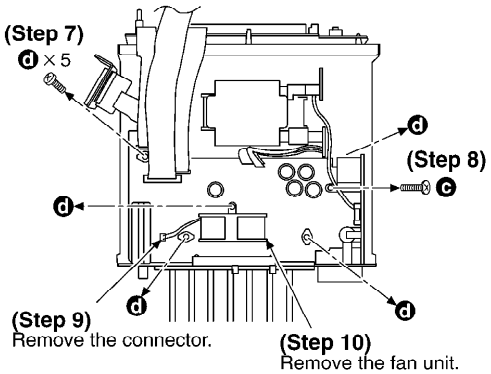


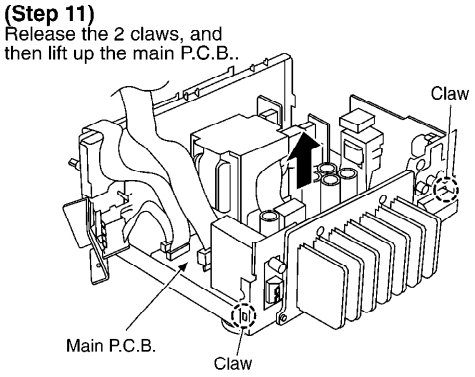
(Step 3)
Release the 2 claws, and then remove the back cover ass'y.



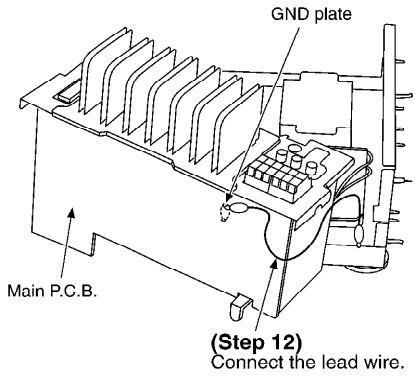






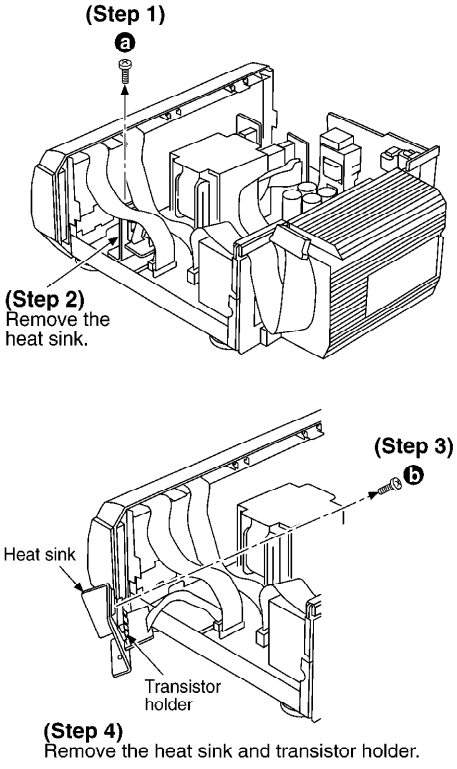


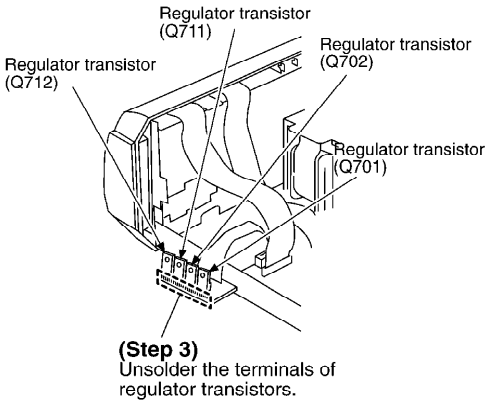
- Check the main P.C.B. as shown below.



6.4. Replacement for the regulator transistor

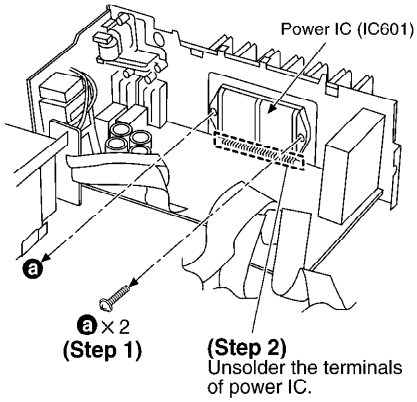
- Follow the (Step 1) - (Step 3) of item 6.1.





6.5. Replacement for the power IC

- Follow the (Step 1) - (Step 3) of item 6.1.
- Follow the (Step 1) - (Step 6) of item 6.2.
- Follow the (Step 1) - (Step 12) of item 6.3.



NOTE:
When mounting the power IC apply silicone conpound (RFKX0002) to the rear side of power IC.

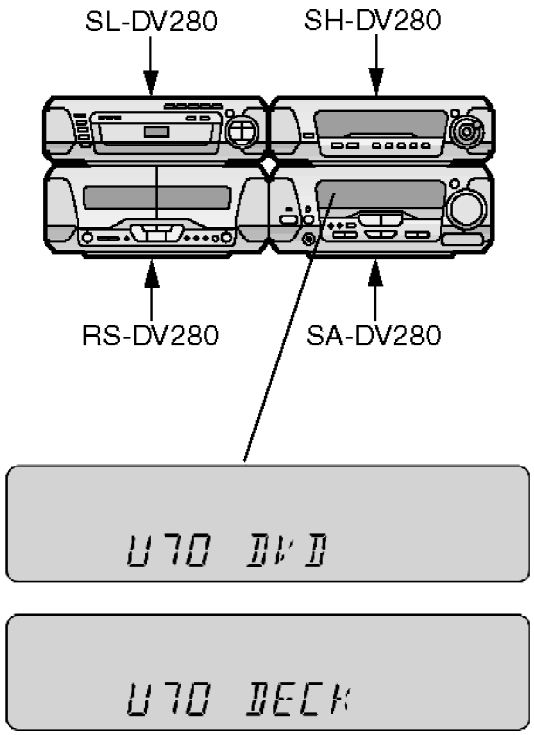
7. Self-Diagnostic Function

This unit equipped with a self-diagnostic function which, in the event of a malfunction, automatically displays a code indicating the nature of the malfunction.
Use this self-diagnostic function when servicing the unit.

7.1. To display the malfunction code

U70 DVD:	**Automatically displays on the**
U70 DECK:	**tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.**
F61:	**Automatically displays on the tuner/amplifier when a malfunction occurs. Refer to Fig. 7-1.**

Fig. 7-1



7.2. To return to the normal display

1. For U70 DVD/U70 DECK

- **Press an any operation button on the tuner/amplifier.**
- **To re-display the code, switch the power off (POWER STANDBY button), and then switch power back on again.**

2. For F61

- **If F61 is displayed, the power will automatically be switched off and the standby indicator will light up.**
- **F61 will be displayed for 3 seconds, and then the clock will be displayed.**
- **To re-display the code, switch the power on. F61 will be re-displayed, and then after 3 seconds the clock will be displayed and the power will automatically switch off.**

7.3. Display contents

7.3.1. U70 DVD, U70 DECK / (displayed automatically)

- Problem or condition

A bus-line communications error has occurred as a result of the

flat cables being inserted incorrectly, thus preventing the system from operating.

- If U70 is displayed on the tuner/amplifier, the Cassette deck or DVD Changer cannot be operated by remote control.

- Correction Procedure

1. To check for correct insertion of the flat cables.

- Insert each connectors until you hear a click.

- Insert the flat cables at the back of the unit in the order indicated. Refer to Fig. 7-2.
Make sure the white side of the cables is on your right side. Refer to Fig. 7-3.

Fig. 7-2.

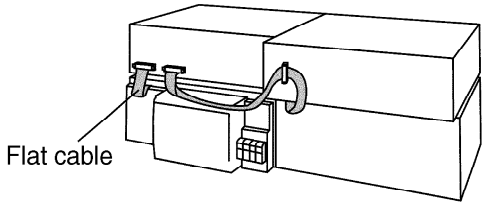
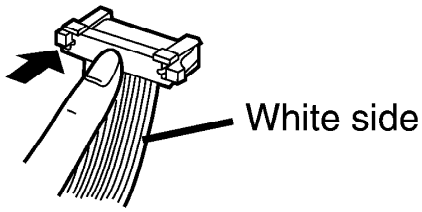


Fig. 7-3.



2. Breakage of the flat cables. (Check and replace.)

3. If the problem is not corrected by items 1 and 2 above, this indicates a faulty IC.
SA-DV280:
IC901 (C2BBFD000317)
SL-DV280:
IC401 (C2BBFD000307)
RS-DV280:
IC701 (M38503M2406F)
Check these ICs and replace.

7.3.2. F61

- Problem or condition

When the power switch is switched on, it automatically switches

back off, making it impossible to switch power on.

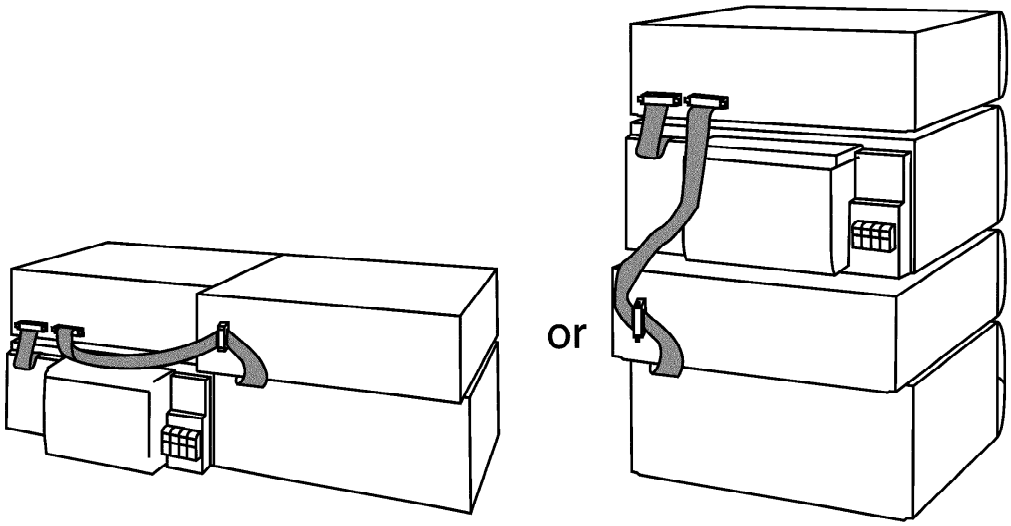
- Correction procedure

Faulty Tuner/Amplifier (SA-DV280) output IC (IC601).
(When a DC voltage is applied to speaker terminals.)

8. To Supply Power Source

This unit SA-DV280 is designed to operate on power supplied form system connected.
For system connection, refer to Fig. 8-1.

Fig. 8-1.



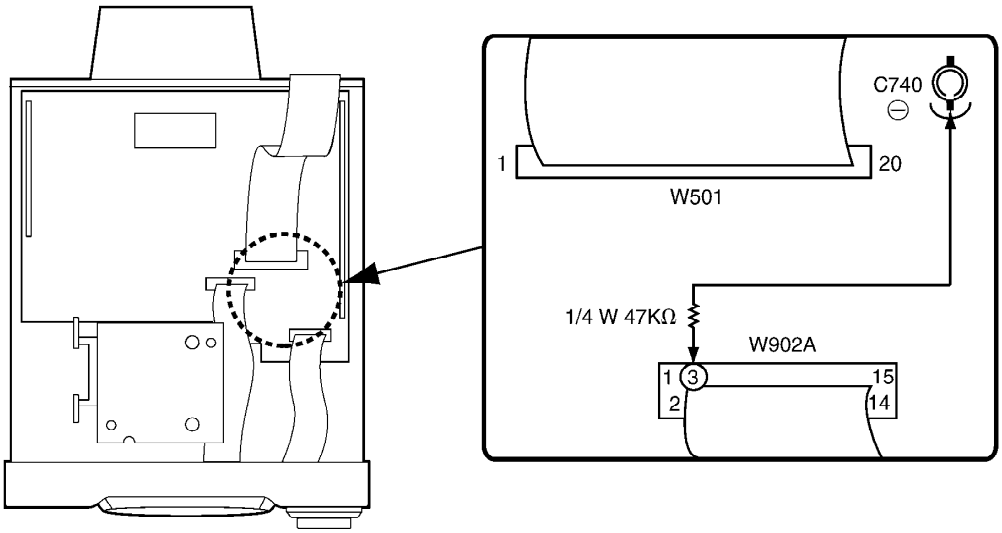
When the unit SA-DV280 has to test and service alone, use the following method to supply power source.

1. Short the section between W902A Pin 3 and C740 (-) (GND). (Refer to Fig. 8-2.)

2. Connect this unit to an AC power supply cord.
(This unit come to stand-by mode.)

3. Turn the unit ON.

Fig. 8-2.



Notes:
Use only this method when checking the voltage etc..
In case of checking operations, use the system connections to supply power source.

9. Schematic Diagram Notes

9.1. Type Illustration of IC's, Transistors and Diodes

9.2. Schematic Diagram Notes

- This schematic diagram may be modified at any time with the development of new technology.

Notes:

- S901: Power Standby/on ( ) switch.
- S902: Echo (ECHO) switch.
- S903: Clock/timer (CLOCK/TIMER) switch.
- S904: Play timer/record timer (PLAY/ REC) switch.
- S905: FM mode (FM AUTO/MONO) switch.
- S906: Tuning mode (TUNING MODE) switch.
- S907: Set (SET) switch.
- S908: Source input (INPUT SELECTOR) switch.
- S910: Tuning (,TUNING) switch.
- S911: Tuning (,TUNING) switch.
- S912: Tuner/band (TUNER/BAND) switch.
- S913: Digital super woofer (DIGITAL S. WOOFER) switch.
- S914, 915: RDS display mode (RDS, PS-DISP, MODE-PTY) switches.
- VR901: Main volume V.R..

- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance)with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internalimpedance of the DC circuit tester.
No mark: Power ON

- Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

Caution!

- Secondary trouble can be prevented by taking care during repair.
- IC and LSI are sensitive to static electricity.
- Cover the parts boxes made of plastics with aluminum foil.
- Ground the soldering iron.
- Put a conductive mat on the work table.
- Do not touch the legs of IC or LSI with the fingers directly.
- Voltage and signal lines
: Positive voltage line
: Negative voltage line
: FM signal line
: AM signal line
: Mic signal line
: Audio signal line
: FM OSC signal line
: AM OSC signal line

10. Schematic Diagram

11. Printed Circuit Board Diagram

12. Block Diagram

13. Wiring Connection Diagram

14. Terminal Function of ICs

14.1. IC901 (C2BBFD000317): System Control/FL Drive

Pin No.	Terminal Name	I/O	Function
1	CHECK	I	Clock check signal input
2	LC72 DI	O	PLL data signal output for tuner unit (Z101)
3	LC72 CE	O	Chip enable signal output for tuner unit (Z101)
4	LC72 DI/ ST	I	IF count data/stereo detect signal input from tuner unit (Z101)
5	LC72 CK	O	Clock signal output for tuner unit (Z101)
6	ST/ AV.6CH	O	Signal select output
7	NC	—	Not used, open
8			
9	SEL TUNER	—	Not used, open
10	SEL/ TUNER	—	Not used, connected to GND
11	AC IN	I	Power failure detect signal input
12	RESET	I	Reset signal input
13	X IN	I	Oscillator connected terminal (32.7kHz)
14	X OUT	O	
15	VSS	—	GND terminal
16	XC IN	I	Oscillator connected terminal (6 MHz)
17	XC OUT	O	
18	VDD 1	I	Power supply terminal
19	KEY TU	I	Operation key signal input
20	KEY KARAOKE	I	Operation key signal input
21	SH REQ	I	Request signal input from Sound Processor
22	NC(GND)	—	Not used, connected to GND

Pin No.	Terminal Name	I/O	Function
23	VR JOGB	I	Volume control signal input
24	VR JOGA		
25	MIC DET	I	Microphone connecting detect signal input (Not used, connected to V_{DD})
26	HP SW	I	Headphone connecting detect signal input
27	RDS CLK	I	RDS clock signal input
28	RDS DATA	I	RDS data signal input
29	REMOCON	I	Remote control signal input
30-37	8G-1G	O	Grid signal output
38-45	P1-P8	O	Segment signal output
46	V_{DD} 3	I	Power supply terminal
47-50	P9-P12	O	Segment signal output
51	-VP	I	Power supply terminal (Negative)
52-71	P13-P32	O	Segment signal output
72	V_{DD} 4	I	Power supply terminal
73-78	P33-P38	O	Segment signal output
79	REGIN0	—	Not used, connected to GND
80	REGIN1		
81	STANDBY	O	LED (STANDBY) drive signal output
82	TIMER	O	LED (TIMER) drive signal output
83	S.W.LED	O	LED (DIGITAL S.WOOFER) drive signal output
84	LOUNGE	—	LED (LOUNGE) drive signal output (Not used, connected to GND)
85	CHORUS	—	LED (CHORUS) drive signal output (Not used, connected to V_{DD})
86	MUTE	O	Muting signal output

Pin No.	Terminal Name	I/O	Function
87	NC	—	Not used, oppen
88	POWER	O	Power control signal output
89	VSS 2	—	GND terminal
90	VDD 2	I	Power supply terminal
91	MUTE2	O	Muting signal output
92	NC	—	Not used, open
93	MUTE3	O	Muting signal output
94	SH CS	O	Chip select signal output for Sound Processor
95	SH DO	O	Serial communication signal to Sound Processor (Data signal output)
96	SH DI	I	Serial communication signal to Sound Proccessor (Data signal input)
97	SH CK	I	Serial communication signal to Sound Processor (Clock signal input)
98	E DET	I	Unusual condition detect signal input
99	CR TIMER	—	Not used, open
100	SD	I	Station detector signal input from tuner unit (Z101)

15. Replacement Parts List

Notes:

*** Important safety notice:**

Components identified by ⚠ mark have special characteristics important for safety. / Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. / Whenreplacing any of components, be sure to use only manufacture's specified parts shown in the parts list.

*** The parenthesized indications in the Remarks columns specify the areas. / Parts without these indications can be used for all areas.**

*** Remote Control Ass'y: Supply period for three years from terminal of production.**

*** Capacity values are in microfarads (uF) unless specified**

otherwise, P=Pico-farads(pF), F=Farads (F)
*** Resistance values are in ohms, unless specified otherwise, 1K= 1,000 (OHM), 1M=1,000K (OHM)**
*** "<IA>, <IB>, <IC>, <ID>" marks in Remarks indicate languages of instruction manuals.**
[<IA> : German/Italian/French/Netherlands, <IB> : Spanish/ Swedish/ Polish/Danish, <IC> : English, <ID> : English/ Germann/ Italian/ French/ Netherlands/ Spanish/ Swedish/ Polish/ Danish/ Russian]
***The markings (RTL) indicate that the retention time is limited for these items. After the discontinuation of these assemblies in production, it will no longer be available.**
***All parts are supplied by MESA.**

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
1	RGN2217-K	NAME PLATE	1	(EG)
1	RGN2218-K	NAME PLATE	1	(EB)
2	RMQ1018	GASKET	1	
3	REM0057	FAN UNIT	1	L6FAKKDG0001
4	REX0967	SYSTEM CONNECT.ASS'Y(20P)	1	
5	RLBT4001-N	FERRITE CORE	1	J0KD00000028
6	RGW0386-S	KNOB,VOLUME	1	
7	RHN90001	NUT	1	
8	RKA0106-N	FOOT RING	4	
9	RKF0606W-K	BACK COVER	1	
10	RKW0581-1V	FL WINDOW	1	
12	RMN0427A	CABLE HOLDER	1	
13	RYP1090-N	FRONT PANEL	1	
13-1	RGB0025-A	TECHNICS BADGE	1	
14	SHG1654	RUBBER	4	
15	XTB3+10JFZ	SCREW	10	
16	XTB3+20JFZ	SCREW	1	
17	XTB3+8JFZ	SCREW	12	
18	XTW3+15T	SCREW	2	
19	XTB3+12FFZ	SCREW	1	
20	XTBS3+8JFZ1	SCREW	2	
21	RHD30007-1S	SCREW	4	
22	RKM0395G-1S	TOP CABINET	1	
23	XTBS3+10JFZ1	SCREW	1	
24	RAN0005EM-2	TUNER PACK(Z101)	1	
A1	EUR7702140	REMOTE CONT.TRANSMITTER	1	
A1-1	UR64EC2337E	BATTERY COVER	1	
A2	RJL1P019B15	PIN CORD	1	K2JA2A000018
A3	REE0853	SPEAKER CORD(GLAY/BLUE)	2	
A4	REE1057	SPEAKER CORD(RED/BLUCK)	2	
A5	RJA0019-2X	AC POWER SUPPLY CORD	1	(EG) ⚠
A5	RJA0053-3X	AC POWER SUPPLY CORD	1	(EB) ⚠

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
A6	RQA0117	WARRANTY CARD	1	
A7	RQCA0801	QUICK SET-UP GUIDE	1	
A8	RQCB0169	SERVICENTER LIST	1	
A9	RQT6303-D	INSTRUCTION MANUAL	1	(EG)<IA>
A9	RQT6305-E	INSTRUCTION MANUAL	1	(EG)<IB>
A9	RQT6306-B	INSTRUCTION MANUAL	1	<IC>
A9	RQT6307-Q	INSTRUCTION MANUAL	1	<ID>
A10	RSA0007	FM INDOOR ANTENNA	1	N1EAYY000002
A11	RSA0022-L	AM LOOP ANTENNA	1	N1DAEYA00008
A12	SJP9009	AC PLUG ADAPTOR	1	K1YZ02000013 (EB) ⚠
A13	VFA0151-2	RCAJ ADAPTOR	1	K1JZ24D00001
C151	ECA1CAK100XB	16V 10U	1	
C152	ECBT1H331KB5	50V 330P	1	F1D1H331A012
C153	ECBA1H102KB5	50V 1000P	1	
C154	ECBT1H561KB5	50V 560P	1	F1D1H561A012
C155	ECBA1H102KB5	50V 1000P	1	
C156,57	ECBA1H470J5	50V 47P	2	ECBT1H470J3
C158,59	RCE0JKA470BG	6.3V 47U	2	F2A0J470A014
C160	ECBA1H102KB5	50V 1000P	1	
C201,02	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C371	ECA0JAK101XB	6.3V 100U	1	
C395,96	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C509,10	ECBT1H103KB5	50V 0.01U	2	
C550	ECBT1H103KB5	50V 0.01U	1	
C551	ECA1HAK2R2XB	50V 2.2U	1	
C552	ECBT1H103KB5	50V 0.01U	1	
C554	ECA1CAM221XB	16V 220U	1	
C555,56	ECEA1CKN100B	16V 10U	2	
C559	ECBT1H103KB5	50V 0.01U	1	
C601,02	ECA1CAK100XB	16V 10U	2	
C603,04	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C605,06	ECBA1H102KB5	50V 1000P	2	
C607,08	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C609,10	ECBT1H560J5	50V 56P	2	ECBT1H560J3
C611	TCBA1H390J5	50V 39P	1	F1D1H390A006
C612	ECBT1H150JC5	50V 15P	1	ECBT1H150JC3
C613,14	ECBA1H470J5	50V 47P	2	ECBT1H470J3
C616	ECEA1HKNR47B	50V 0.47U	1	
C617,18	ECKR2H103ZU	500V 0.01U	2	
C619-21	ECBT1H104KB5	50V 0.1U	3	F1D1H1040002
C622	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C624-31	ECBT1H104KB5	50V 0.1U	8	F1D1H1040002
C632	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C633,34	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C635-37	ECBT1H473KB5	50V 0.047U	3	F1D1H473A012
C639-44	ECBA1H102KB5	50V 1000P	6	
C645,46	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C647-50	ECBA1H102KB5	50V 1000P	4	
C651	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C652	ECBA1H102KB5	50V 1000P	1	
C655,56	ECA1CAK100XB	16V 10U	2	
C659,60	ECA1CAK100XB	16V 10U	2	
C664	ECA1CAK100XB	16V 10U	1	

[illegible]	[illegible]	[illegible]	[illegible]	

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
C701-04	F2B1V4720004	35V 4700U	4	
C705	ECBT1H103KB5	50V 0.01U	1	
C706	RCE1VKA100BG	35V 10U	1	F2A1V1000011
C707,08	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C709	ECQV1H104JM3	50V 0.1U	1	
C710	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C714	ECBA1H102KB5	50V 1000P	1	
C715	ECA1EAM682XE	16V 6800U	1	
C717	ECA1CAK330XB	16V 33U	1	
C718	ECA1EAM101XB	16V 100U	1	
C719,20	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C721	RCE1AKA101BG	10V 100U	1	F2A1A1010020
C722	ECA1EAM101XB	16V 100U	1	
C723,24	ECBT1H473KB5	50V 0.047U	2	F1D1H473A012
C725	ECA1CAK470XB	16V 47U	1	
C731	ECBA1H102KB5	50V 1000P	1	
C732	ECBT1H223KB5	50V 0.022U	1	F1D1H223A012
C733	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C734	RCE1HKA3R3BG	50V 3.3U	1	F2A1H3R3A015
C735	ECBT1H473KB5	50V 0.047U	1	F1D1H473A012
C737	ECA1HAM101XB	50V 100U	1	
C740	ECA1CAK100XB	16V 10U	1	
C741	ECQE1104KF3	100V 0.1U	1	
C753	ECKR1H103ZF5	50V 0.01U	1	F1B1H1030001
C754	ECBT1H103KB5	50V 0.01U	1	
C755	ECA1CAM102X	16V 1000U	1	ECA1CAM102XB
C758	ECBT1H103KB5	50V 0.01U	1	
C759	RCE1AKA470BG	10V 100U	1	F2A1A470A011
C761	ECQE1104KF3	100V 0.1U	1	
C791	ECKWRS102MBC	1000P	1	⚠
C901	EEAFC0J101B	6.3V 100U	1	
C902	F2A1A102A018	10V 1000U	1	
C903,04	ECBT1H103KB5	50V 0.01U	2	
C905	ECBA1H102KB5	50V 1000P	1	
C907,08	ECBT1H471KB5	50V 470P	2	F1D1H471A012
C909	ECBA1H102KB5	50V 1000P	1	
C910	ECBT1H200JC5	50V 20P	1	F1D1H200A015
C911	ECBA1H180J5	50V 18P	1	F1D1H180A006
C912	ECBT1H104KB5	50V 0.1U	1	F1D1H1040002
C914	ECA1HAK2R2XB	50V 2.2U	1	
C915	ECBT1H103KB5	50V 0.01U	1	
C916	EEAFC0J101B	6.3V 100U	1	
C917	ECBT1H103KB5	50V 0.01U	1	
C918	ECA0JAK101XB	6.3V 100U	1	
C919,20	ECA1EAK220XB	25V 22U	2	
C921	ECBA1H102KB5	50V 1000P	1	
C922	ECA1VAK330XB	35V 33U	1	
C923,24	ECBT1H104KB5	50V 0.1U	2	F1D1H1040002
C925,26	ECBA1H102KB5	50V 1000P	2	
C927,28	ECA1EAK220XB	25V 22U	2	
C931	ECEA1CKN100B	16V 10U	1	
CN601	RJU057W012	CONNECTOR(12P)	1	K1KB12B00033
CN602	RJU057W008	CONNECTOR(8P)	1	K1KB08B00034

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
CN701-13	RJS1A1101T1	CONNECTOR(1P)	13	
CN781	RJS10T5ZA	CONNECTOR(10P)	1	K1MP10A00007
CP101	RJT100W11	CONNECTOR(11P)	1	K1KA11A00093
CP601	RJT057W012-1	CONNECTOR(12P)	1	K1KA12A00160
CP602	RJT057W008-1	CONNECTOR(8P)	1	K1KA08A00187
D151	MA4051M	DIODE	1	MAZ40510M
D201	MA4056-M	DIODE	1	MAZ40560M
D306	SELS5223C	LED	1	B3AAA0000486
D500	MA165	DIODE	1	MA2C165
D551,52	MA165	DIODE	2	MA2C165
D553	MA700	DIODE	1	MA2C700
D554	MA165	DIODE	1	MA2C165
D555	MA4100M	DIODE	1	MAZ41000MF
D558	MA165	DIODE	1	MA2C165
D581-83	RL1N4003N02	DIODE	3	B0AAMM000009
D601,02	SB360L6508	DIODE	2	B0JAPG000014
D607	1SS291TA	DIODE	1	
D611	MA4051M	DIODE	1	MAZ40510M
D657-59	MA165	DIODE	3	MA2C165
D701-04	1N5402BF	DIODE	4	
D705	RL1N4003N02	DIODE	1	B0AAMM000009
D711	RL1N4003N02	DIODE	1	B0AAMM000009
D717-20	RL1N4003N02	DIODE	4	B0AAMM000009
D721	MA4300M	DIODE	1	MAZ43000M
D723	MA4150-M	DIODE	1	MAZ41500M
D725	MA4082LTA	DIODE	1	MAZ40820LF
D730	MA4091H	DIODE	1	MAZ40910H
D737	MA4082LTA	DIODE	1	MAZ40820LF
D738-40	MA165	DIODE	3	MA2C165
D741-44	RL1N4003N02	DIODE	4	B0AAMM000009
D745	MA4051M	DIODE	1	MAZ40510M
D746	RL1N4003N02	DIODE	1	B0AAMM000009
D747	MA4068L	DIODE	1	MAZ40680L
D751,52	1N5402BF	DIODE	2	
D753-55	RL1N4003N02	DIODE	3	B0AAMM000009
D756,57	MA700	DIODE	2	MA2C700
D758	MA165	DIODE	1	MA2C165
D761	RL1N4003N02	DIODE	1	B0AAMM000009
D901,02	1SS291TA	DIODE	2	
D904	MA165	DIODE	1	MA2C165
D905	1SS291TA	DIODE	1	
D906,07	MA165	DIODE	2	MA2C165
D931	MA165	DIODE	1	MA2C165
D933	MA165	DIODE	1	MA2C165
D951	LNJ301MPUJAD	LED	1	
D954	SELS5923C	LED	1	B3ADA0000083
D961	MA4075M	DIODE	1	MAZ40750M
D973	MA4030M	DIODE	1	MAZ40300M
D974	MA165	DIODE	1	MA2C165
F1	XBA2C20TB0	FUSE,T2A	1	K5D202BL0004 ⚠

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
FL901	A2BB00000084	FL DISPLAY TUBE	1	
FP791,92	K5G502AA0002	FUSE PROTECTOR	2	⚠
IC151	C1BB00000527	IC	1	
IC201	BU4053BCFE2	IC	1	
IC601	RSN311W64B	IC	1	
IC901	C2BBFD000317	IC	1	
JK551	SJT3213	CONNECTOR,FAN MOTOR	1	K1KA02A00008
JK601,02	K4BC04B00028	JACK,SP	2	
JK603	K2HA103B0015	JACK,SP	1	
JK701	SJS9236-1	JACK,AC INLET	1	K2AA2B000002 ⚠
JK903	RJJ37TN02-C	JACK,H.P.	1	K2HC103A0009
L151,52	ELEXT101KA9	COIL	2	
L153	RLQA1R0JT1-Y	COIL	1	G0C1R0JA0019
L601-06	RLQYR73MW1-0	COIL	6	G0ZZ00001606
L701	RLQZ371	COIL	1	ELF15N035AN ⚠
L901	RLQA100JT1-Y	COIL	1	G0C100JA0019
L902	RLQA1R0JT1-Y	COIL	1	G0C1R0JA0019
P1	RPG4396	PACKING CASE (SA)	1	
P1	RPG4398	PACKING CASE (SH)	1	
P1	RPG4397	PACKING CASE (RS)	1	
P1	RPG4399	PACKING CASE (SL)	1	
P2	RPN1194	POLYFOAM (SA)	1	
P2	RPN1196	POLYFOAM (SH)	1	
P2	RPN1195-2	POLYFOAM (RS)	1	
P2	RPN1197	POLYFOAM (SL)	1	
P3	SPP740-1	PROTECTION BAG(UNIT)	4	
P4	RPF0139-1	PROTECTION BAG(ACCESS.)	1	
P5	RPG5869	PACKING CASE(SYSTEM)	1	(EG)
P5	RPG5870	PACKING CASE(SYSTEM)	1	(EB)
P6	RPQ0951	PAD	1	
PCB1	REP3337E-M	MAIN P.C.B.	1	(RTL)
PCB2	REP3338A-S	SUB P.C.B.	1	(EG)(RTL)
PCB2	REP3338B-S	SUB P.C.B.	1	(EB)(RTL)
Q503	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q551	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q553	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q554	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q555	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q556	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q557	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q601,02	2SC5398RSTA	TRANSISTOR	2	B1AACF000059
Q605-10	2SD2144S	TRANSISTOR	6	B1AAGC000006
Q612	UN411FTA	TRANSISTOR	1	UNR411F00A
Q701	2SD2374PQAU	TRANSISTOR	1	2SD23740J1AU
Q702	2SB1548PQAU	TRANSISTOR	1	2SB15480J1AU
Q703,04	2SD2137PQTA	TRANSISTOR	2	2SD21370PA

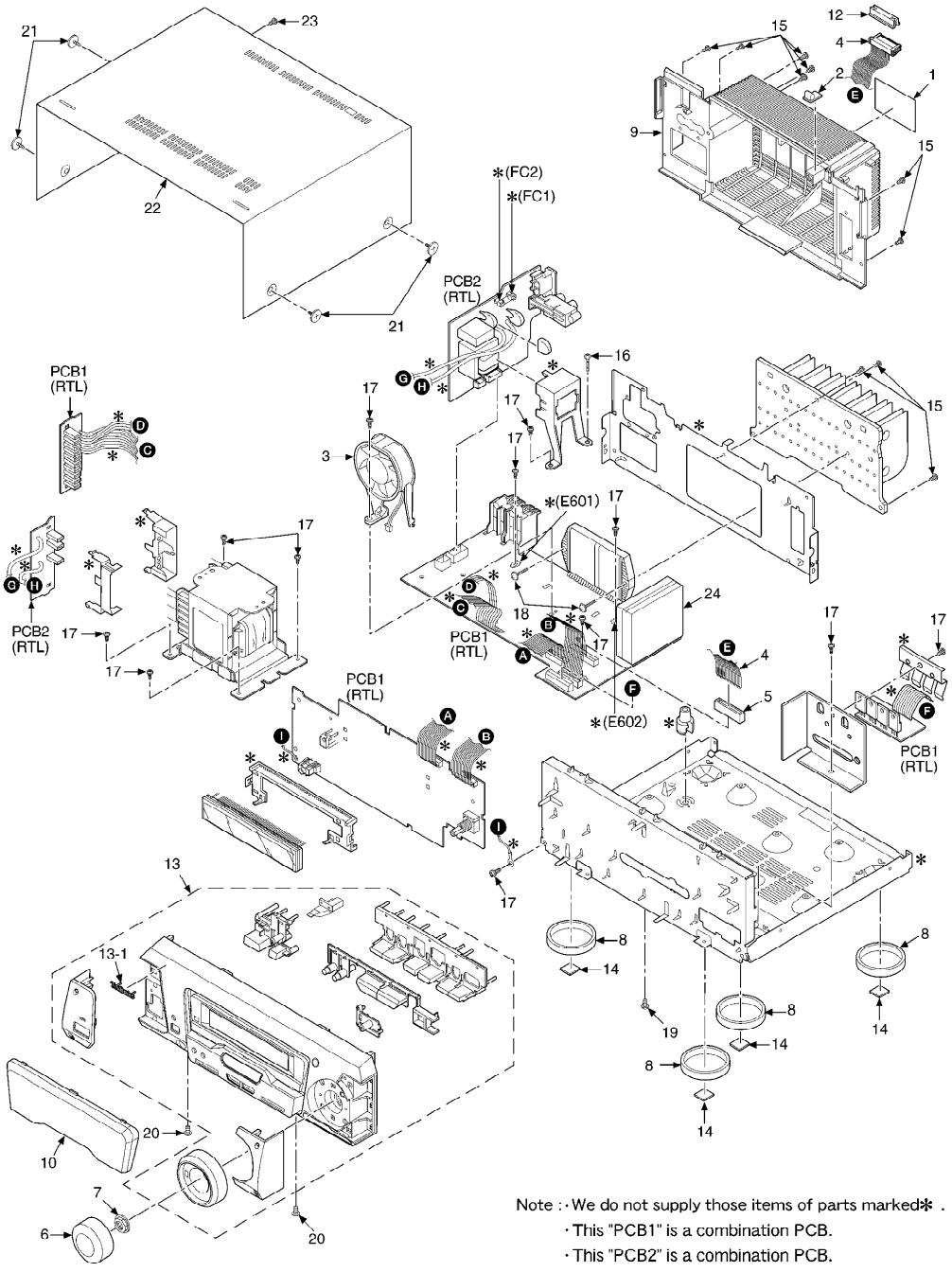
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
Q705	2SA1995RSTA	TRANSISTOR	1	B1ACDF000006
Q707	2SB1417PQTA	TRANSISTOR	1	2SB14170JA
Q708	UN4211	TRANSISTOR	1	UNR4211
Q709	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q711,12	2SB1548PQAU	TRANSISTOR	2	2SB15480J1AU
Q723	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q725	2SC5398RSTA	TRANSISTOR	1	B1AACF000059
Q726	2SC3940AQSTA	TRANSISTOR	1	2SC3940ARA
Q791	2SD2144S	TRANSISTOR	1	B1AAGC000006
Q901	UN4212TA	TRANSISTOR	1	UNR421200A
Q902	UN411FTA	TRANSISTOR	1	UNR411F00A
R151,52	ERDS2FJ102	1/4W 1K	2	
R153,54	ERDS2FJ104	1/4W 100K	2	ERDS2TJ104T
R155	ERDS2FJ121	1/4W 120	1	ERDS2TJ121T
R157,58	ERDS2FJ102	1/4W 1K	2	
R202-05	ERDS2FJ104	1/4W 100K	4	ERDS2TJ104T
R211	ERDS2FJ271	1/4W 270	1	ERDS2TJ271T
R229,30	ERDS2FJ102	1/4W 1K	2	
R509-12	ERDS2FJ470	1/4W 47	4	
R544	ERDS2FJ103	1/4W 10K	1	
R546,47	ERDS2TJ183	1/4W 18K	2	
R551	ERDS2TJ183	1/4W 18K	1	
R552	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R555	ERDS2FJ223	1/4W 22K	1	
R556	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R557	ERDS2FJ103	1/4W 10K	1	
R558	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R559	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R560,61	ERDS2FJ104	1/4W 100K	2	ERDS2TJ104T
R563,64	ERDS2TJ272T	1/4W 2.7K	2	
R566	ERDS2FJ683	1/4W 68K	1	ERDS2TJ683T
R567	ERG1SJ220	1W 22	1	
R568	ERDS2FJ101	1/4W 100	1	
R569	ERDS2FJ103	1/4W 10K	1	
R570	ERDS2TJ225	1/4W 2.2M	1	
R572	ERDS2FJ153	1/4W 15K	1	ERDS2TJ153T
R591	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R597,98	ERDS2FJ222	1/4W 2.2K	2	ERDS2TJ222T
R601-04	ERDS2FJ332	1/4W 3.3K	4	
R605,06	ERDS2FJ472	1/4W 4.7K	2	ERDS2TJ472T
R607-09	ERDS2FJ563	1/4W 56K	3	ERDS2TJ563T
R610	ERDS2FJ154	1/4W 150K	1	
R611,12	ERDS2FJ563	1/4W 56K	2	ERDS2TJ563T
R614,15	ERDS2FJ472	1/4W 4.7K	2	ERDS2TJ472T
R617,18	ERDS2FJ472	1/4W 4.7K	2	ERDS2TJ472T
R619,20	ERDS2TJ124	1/4W 120K	2	
R621	ERDS2FJ154	1/4W 150K	1	
R622,23	ERDS2TJ124	1/4W 120K	2	
R624	ERDS2FJ154	1/4W 150K	1	
R627	ERDS2FJ474	1/4W 470K	1	
R628	ERDS2FJ223	1/4W 22K	1	
R631,32	ERDS2TJ392T	1/4W 3.9K	2	
R635	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R637	ERDS2FJ153	1/4W 15K	1	ERDS2TJ153T
R638	ERDS2FJ683	1/4W 68K	1	ERDS2TJ683T
R639,40	ERDS1FJ100	1/2W 10	2	ERDS1FVJ100T
R641,42	ERDS2FJ100	1/4W 10	2	
R643,44	ERDS1FJ100	1/2W 10	2	ERDS1FVJ100T
R645,46	ERDS2FJ100	1/4W 10	2	
R647	ERDS2FJ271	1/4W 270	1	ERD25FVJ271T
R648	ERD2FCG121	1/4W 120	1	
R649-52	ERDS1FJ100	1/2W 10	4	ERDS1FVJ100T
R683-86	ERDS2FJ102	1/4W 1K	4	
R687,88	ERDS2FJ152	1/4W 1.5K	2	
R691	ERDS1FJ680	1/2W 68	1	
R692,93	ERDS2FJ102	1/4W 1K	2	
R694	ERDS2FJ223	1/4W 22K	1	
R695	ERDS2FJ471	1/4W 470	1	
R696	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R708	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R712	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R719	ERDS2FJ332	1/4W 3.3K	1	
R720	ERDS2TJ392T	1/4W 3.9K	1	
R721	ERD2FCJ4R7	1/4W 4.7	1	ERD2FCVJ4R7T
R722	ERQ16NKW2R2E	1/6W 2.2	1	
R723	ERDS2FJ562	1/4W 5.6K	1	
R724	ERDS2TJ392T	1/4W 3.9K	1	
R725	ERDS2FJ100	1/4W 10	1	
R727	ERDS2TJ392T	1/4W 3.9K	1	
R729	ERDS2FJ221	1/4W 220	1	
R738	ERDS2TJ392T	1/4W 3.9K	1	
R739	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R749	ERDS2FJ102	1/4W 1K	1	
R753,54	ERX1SJR47	1W 0.47	2	ERX1SJR47E
R761	ERG1SJ221	1/2W 220	1	
R763	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R764	ERDS2FJ331	1/4W 330	1	
R765	ERDS1FJ221	1/2W 220	1	ERDS1FVJ221T
R767	ERG1SJ270	1W 27	1	
R768	ERDS2FJ101	1/4W 100	1	
R769	ERG1SJ270	1W 27	1	
R771	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R772	ERDS2FJ223	1/4W 22K	1	
R773,74	ERDS1FJ180	1/2W 18	2	
R776	ERDS2FJ103	1/4W 10K	1	
R777	ERDS2FJ102	1/4W 1K	1	
R793	ERDS2TJ1R0	1/4W 1	1	
R794	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R795	ERDS2TJ392T	1/4W 3.9K	1	
R796,97	ERDS2FJ2R2	1/4W 2.2	2	ERDS2TJ2R2T
R798	ERQ16NKW2R2E	1/6W 2.2	1	
R901	ERDS2FJ821	1/4W 820	1	ERDS2TJ821T
R902	ERDS2FJ102	1/4W 1K	1	
R903	ERDS2FJ122	1/4W 1.2K	1	ERDS2TJ122T
R904	ERDS2FJ152	1/4W 1.5K	1	
R905	ERDS2FJ182	1/4W 1.8K	1	
R906	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T

Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
R907	ERDS2FJ332	1/4W 3.3K	1	
R909	ERDS2FJ182	1/4W 1.8K	1	
R910	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R911	ERDS2FJ332	1/4W 3.3K	1	
R912	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R913	ERDS2FJ821	1/4W 820	1	ERDS2TJ821T
R914	ERDS2FJ102	1/4W 1K	1	
R915	ERDS2FJ122	1/4W 1.2K	1	ERDS2TJ122T
R916	ERDS2FJ152	1/4W 1.5K	1	
R918	ERDS2FJ103	1/4W 10K	1	
R919	ERDS2FJ153	1/4W 15K	1	ERDS2TJ153T
R921,22	ERDS2FJ103	1/4W 10K	2	
R924,25	ERDS2FJ102	1/4W 1K	2	
R926	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R928	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R929-32	ERDS2FJ102	1/4W 1K	4	
R934-36	ERDS2FJ101	1/4W 100	3	
R937	ERDS2FJ103	1/4W 10K	1	
R939	ERDS2FJ152	1/4W 1.5K	1	
R940,41	ERDS2FJ102	1/4W 1K	2	
R942	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R943	ERDS2FJ101	1/4W 100	1	
R944	ERDS2FJ222	1/4W 2.2K	1	ERDS2TJ222T
R945	ERDS2FJ101	1/4W 100	1	
R946	ERDS2FJ102	1/4W 1K	1	
R949	ERDS2FJ472	1/4W 4.7K	1	ERDS2TJ472T
R950	ERDS2FJ101	1/4W 100	1	
R951	ERDS2FJ334	1/4W 330K	1	ERDS2TJ334T
R952	ERDS2TJ106T	1/4W 10M	1	
R953	ERDS2FJ101	1/4W 100	1	
R954	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R956-58	ERDS2FJ102	1/4W 1K	3	
R959	ERDS2FJ470	1/4W 47	1	
R960	ERDS2FJ152	1/4W 1.5K	1	
R961,62	ERDS2FJ223	1/4W 22K	2	
R965,66	ERDS2TJ392T	1/4W 3.9K	2	
R969	ERDS2TJ272T	1/4W 2.7K	1	
R974	ERDS2FJ102	1/4W 1K	1	
R975	ERDS2FJ223	1/4W 22K	1	
R976	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R986	ERDS2FJ152	1/4W 1.5K	1	
R987,88	ERDS2FJ102	1/4W 1K	2	
R990	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
R991	ERDS2FJ473	1/4W 47K	1	ERDS2TJ473T
R993,94	ERDS2FJ104	1/4W 100K	2	ERDS2TJ104T
R995	ERDS2FJ221	1/4W 220	1	
R996,97	ERDS2FJ151	1/4W 150	2	ERDS2TJ151T
R999	ERDS2FJ104	1/4W 100K	1	ERDS2TJ104T
RL702	RSY0040M-0	RELAY	1	⚠
S901-08	EVQ11G05R	SW,PUSH	8	
S910-15	EVQ11G05R	SW,PUSH	6	

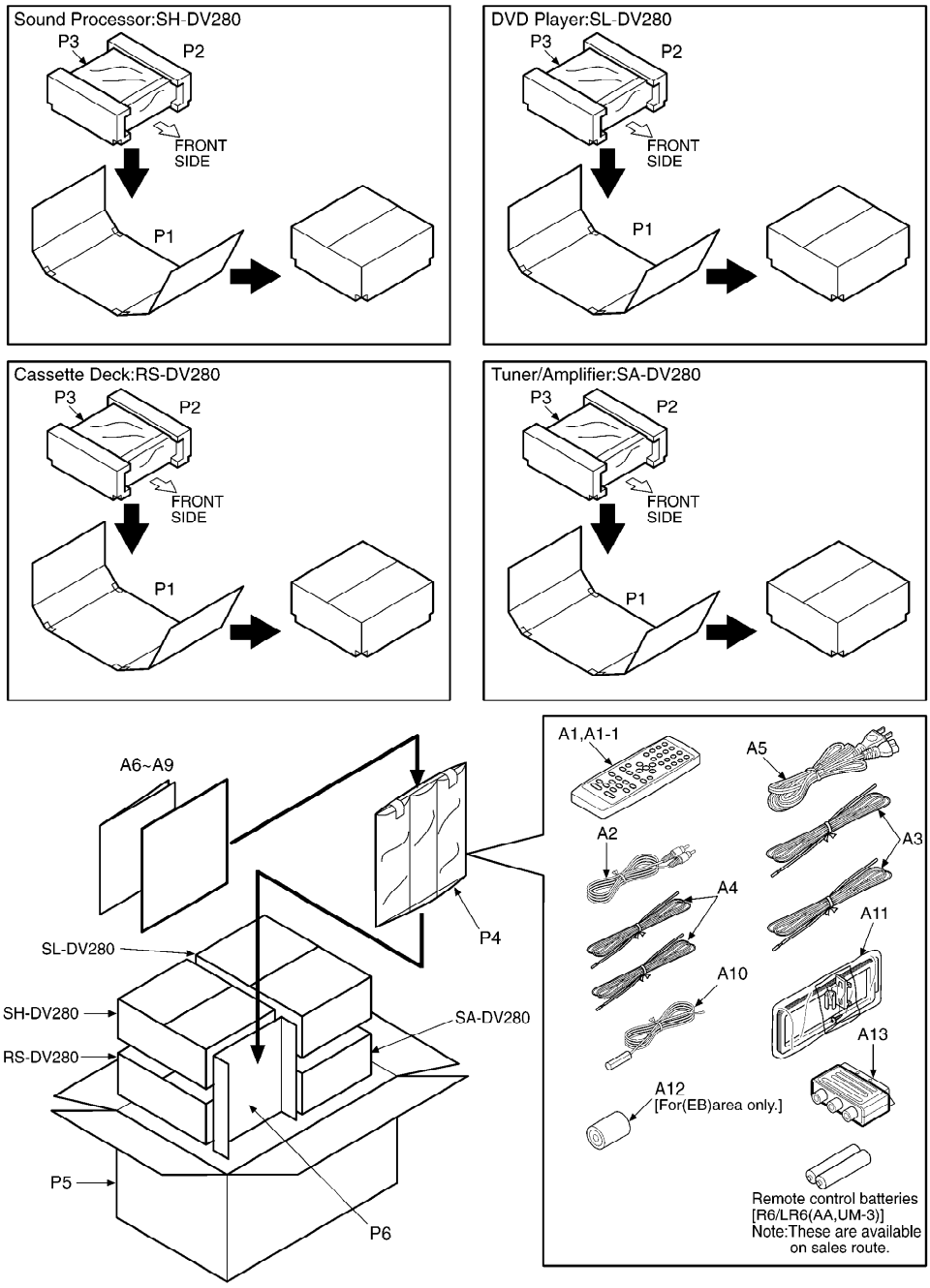
Ref. No.	Part No.	Part Name & Description	Pcs	Remarks
T701	ETP76VST617A	POWER TRANSFORMER	1	⚠
T702	RTP1H3E001	POWER TRANSFORMER	1	ETP28KBZ21BG ⚠
VR901	EVQVBXFK124B	V.R.,VOLUME	1	
X151	RSXC4M33S02T	OSCILLATOR	1	H0H433400001
X901	EF0EC6004T4	OSCILLATOR	1	EFOEC6004T4
X902	RSXD32K7S02	OSCILLATOR	1	H0A327200027
Z701	ENC471D5A	ZNR	1	J0LG00000008 ⚠
Z901	B3RAD0000028	REMOTE SENSOR	1	

16. Cabinet Parts Location



Note : · We do not supply those items of parts marked* .
· This "PCB1" is a combination PCB.
· This "PCB2" is a combination PCB.

17. Packaging



18. Schematic Diagram for printing with A4 size

H010400000TN/HH)

SCHEMATIC DIAGRAM-5

Z101 TUNER UNIT(RAN0005EM-2)

:POSITIVE VOLTAGE LINE
:FM SIGNAL LINE
:FM OSC SIGNAL LINE
:AM SIGNAL LINE
:AM OSC SIGNAL LINE

FM ANT (75 Ω)
AM ANT EXT
LOOP

2SK360 RF AMP
2SC2059 FM MIXER
2SK360 FM OSC
2SC2413 BUFFER AMP
2SC2413 FM IF AMP
2SC2413 FM IF AMP

DTA114 POWER SUPPLY (FM:ON)

LA1833MN
FM/AM IF AMP, DET/AM OSC,MIX/FM MPX

LC72131M
PLL FREQUENCY SYNTHESIZER

2SC2712 SWITCHING

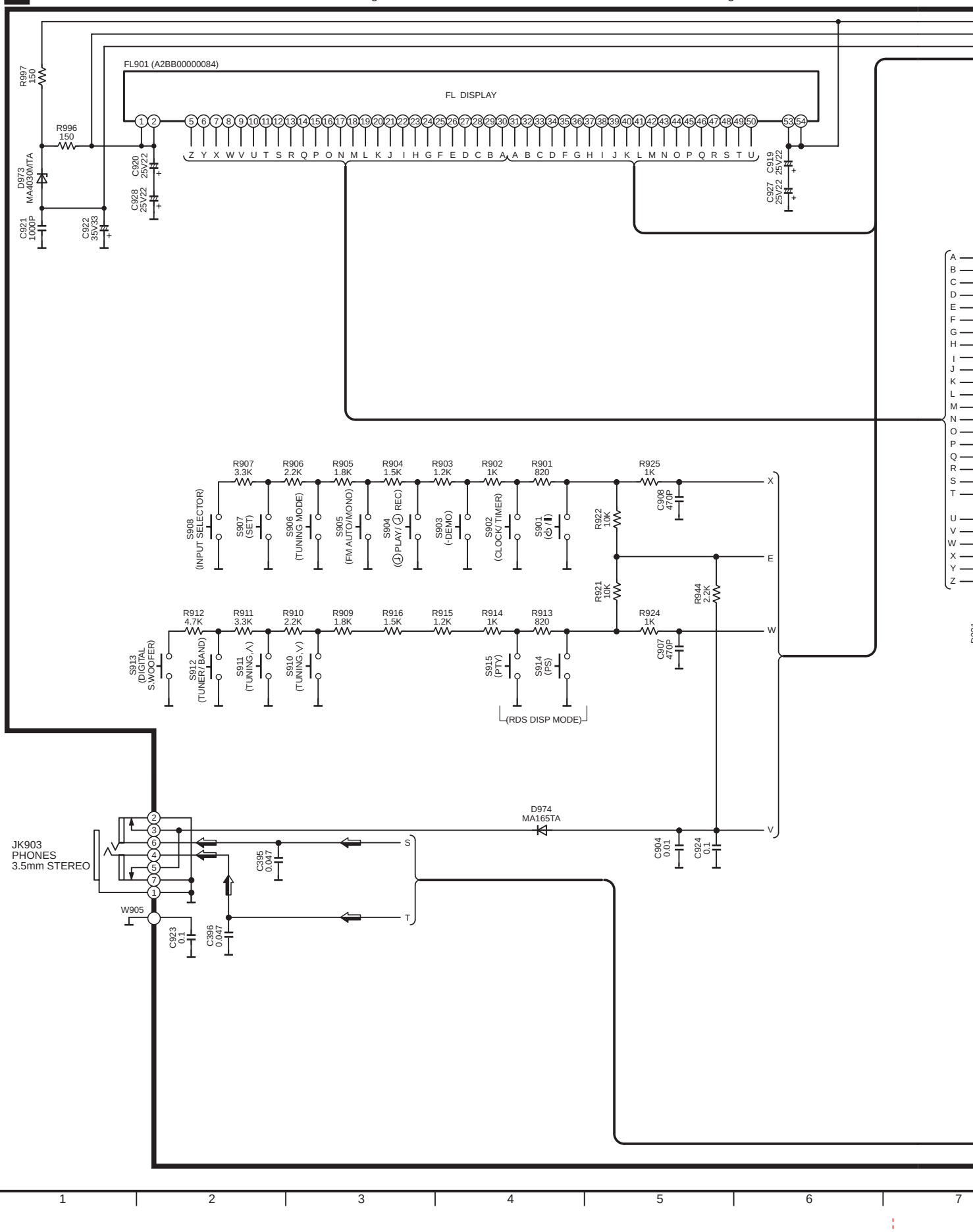
To B MAIN CIRCUIT(CP101) on SCHEMATIC DIAGRAM-2/19-A

SA-DV280(EB,EG) TUNER UNIT CIRCUIT DIAGRAM

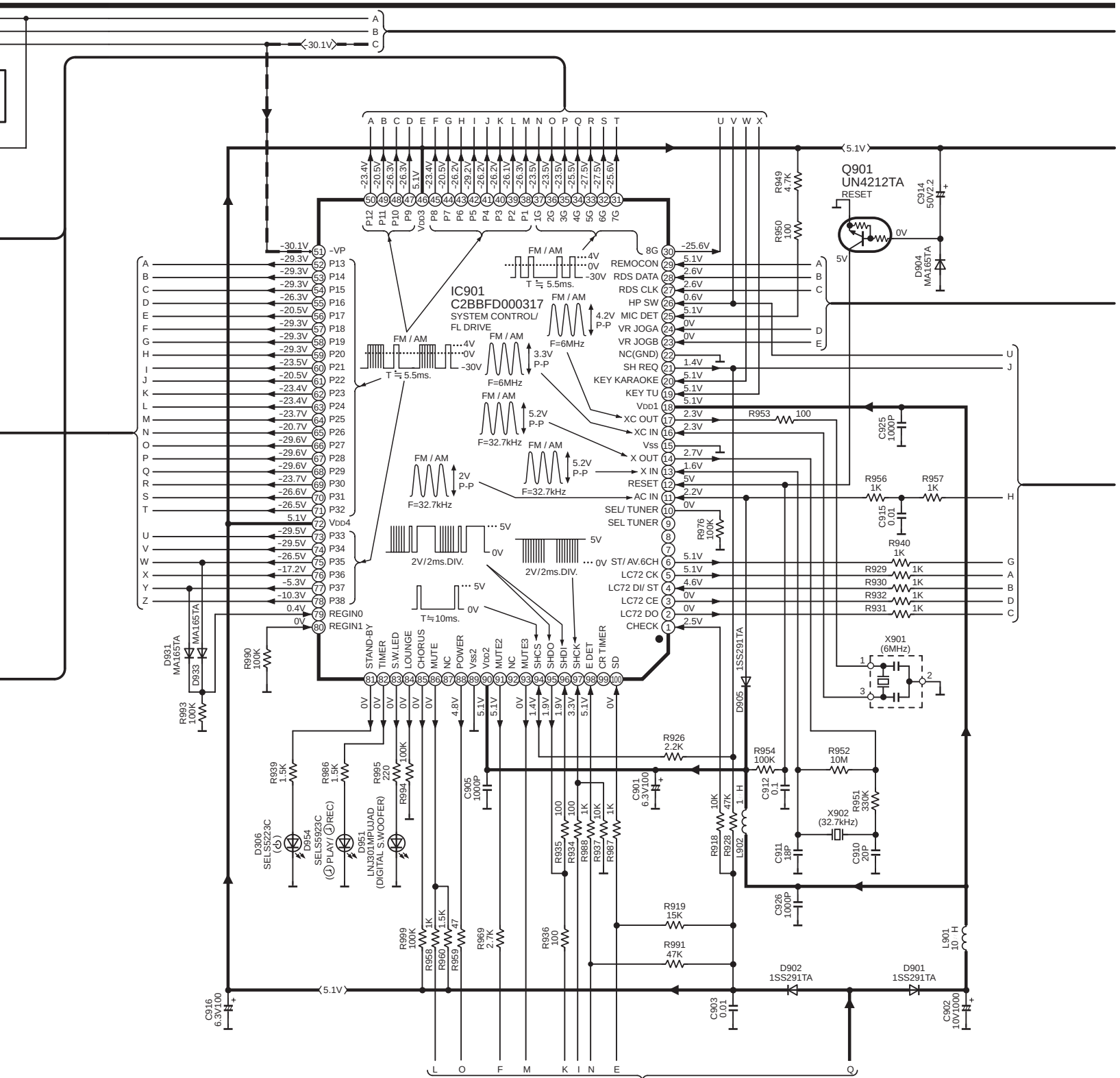
SCHEMATIC DIAGRAM-1

A OPERATION CIRCUIT

NOTE:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.



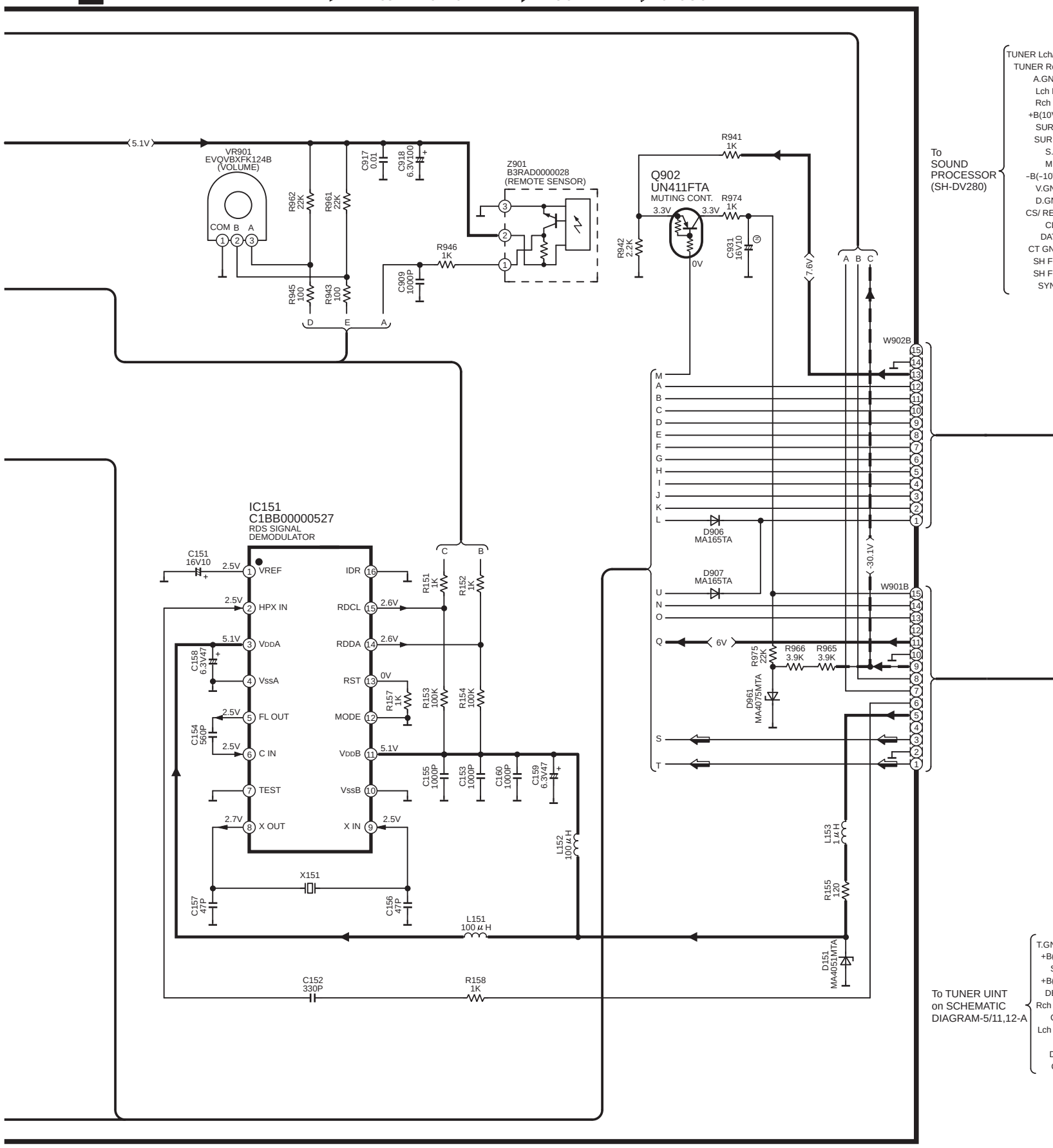
: POSITIVE VOLTAGE LINE : NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE



SCHEMATIC DIAGRAM-2

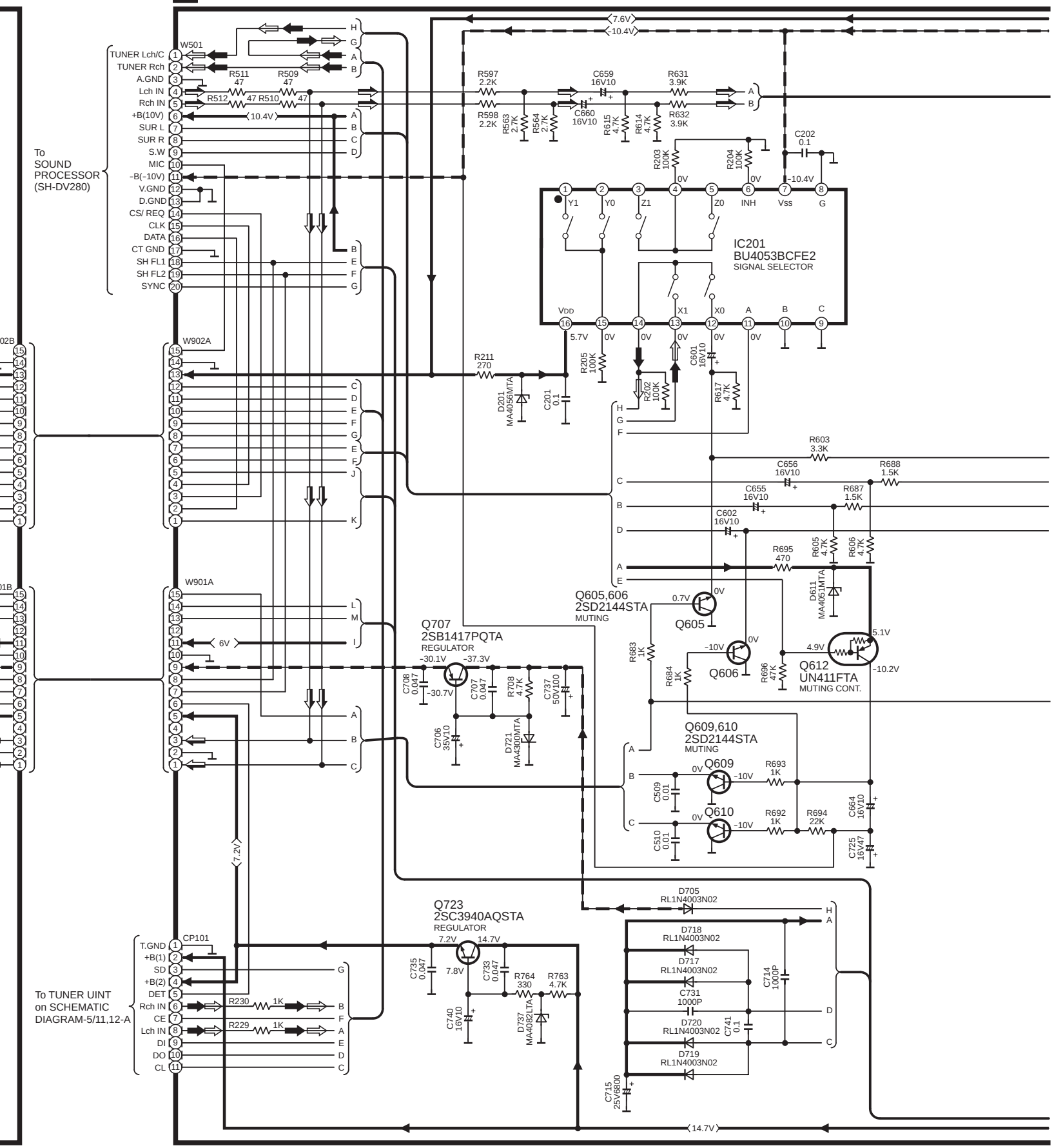
A OPERATION CIRCUIT

: NEGATIVE VOLTAGE LINE
: POSITIVE VOLTAGE LINE
: FM SIGNAL LINE
: AM SIGNAL LINE
:AUDIO SIGNAL LINE



13 14 15 16 17 18 19

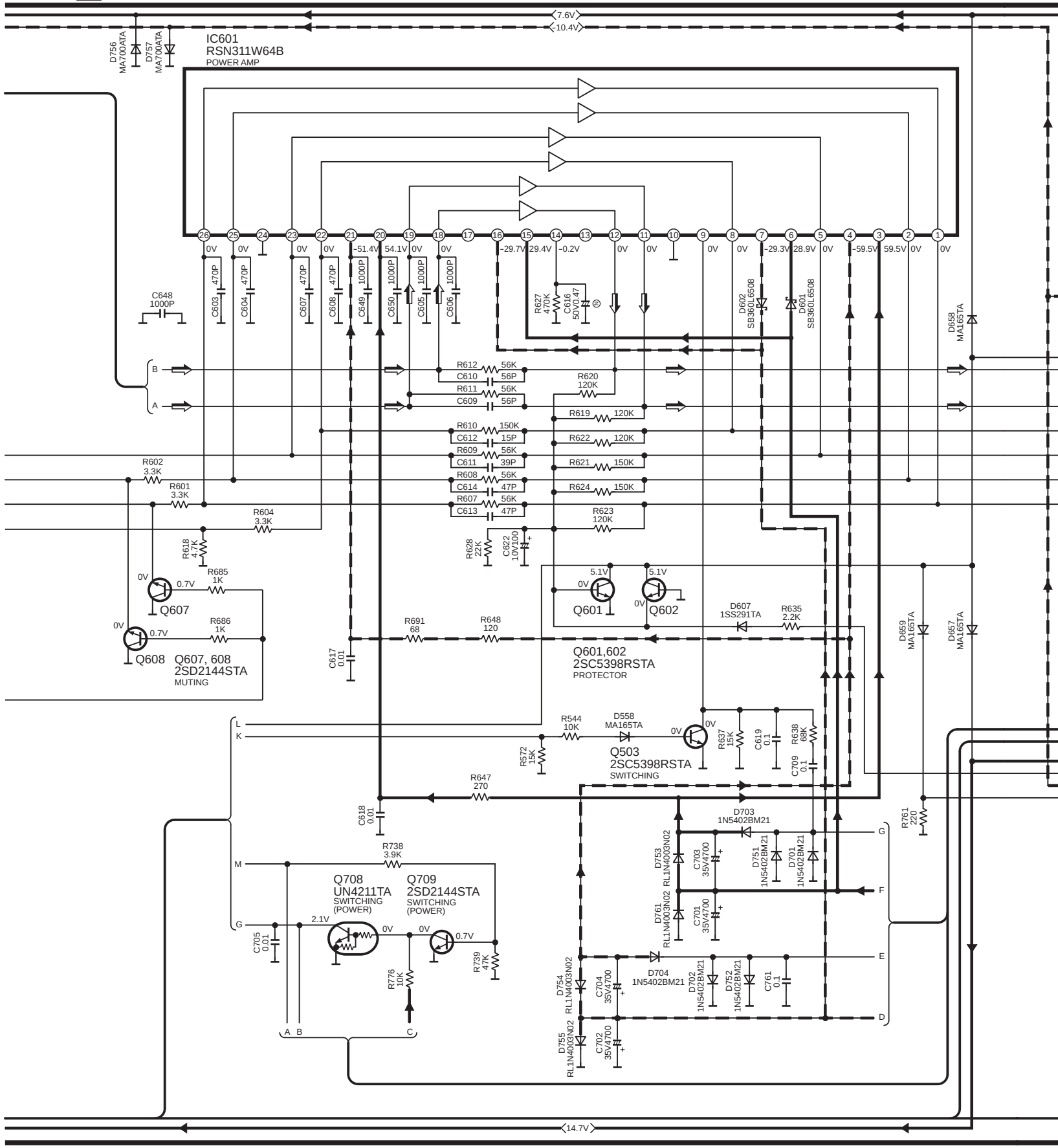
B MAIN CIRCUIT

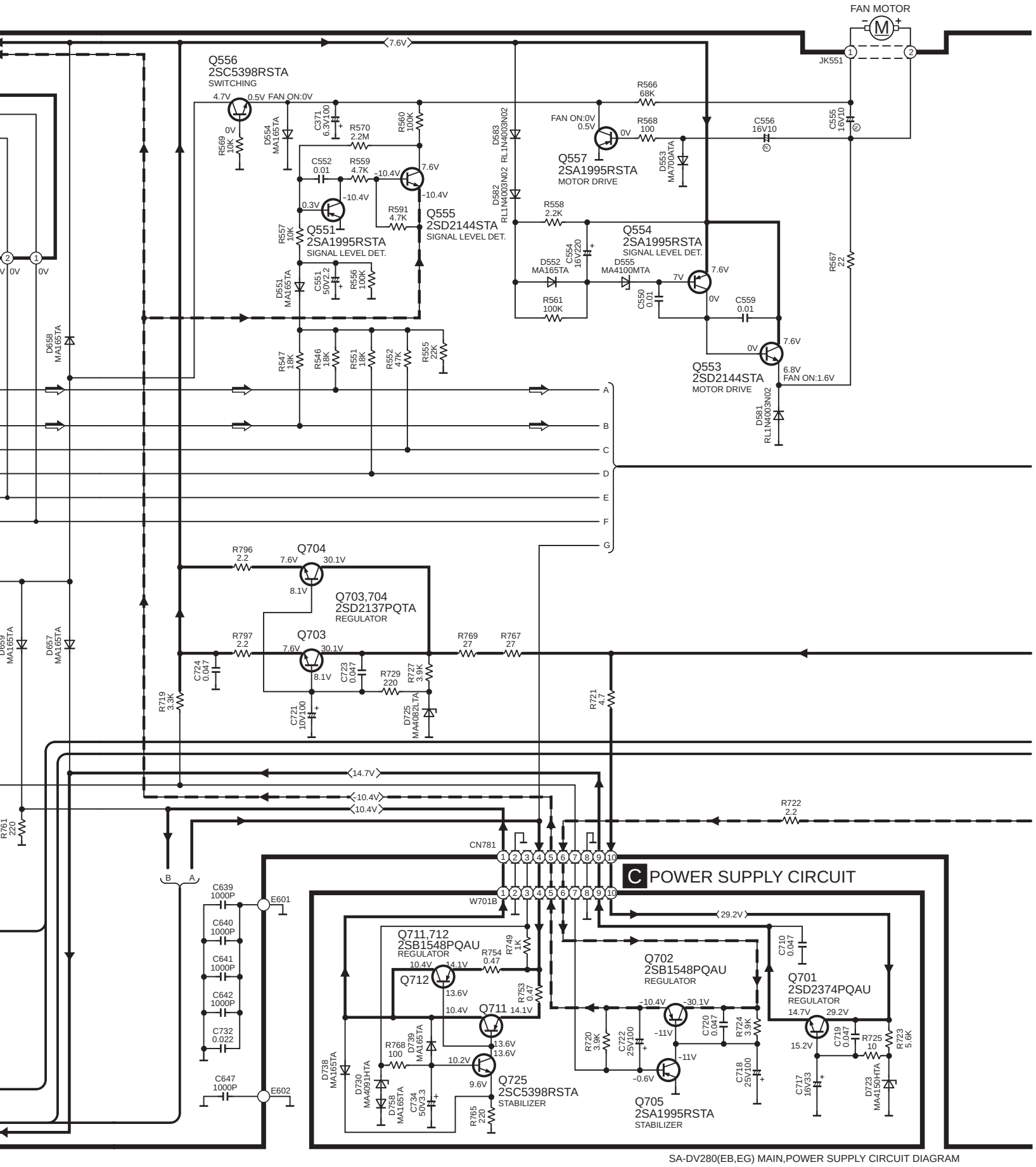


SCHEMATIC DIAGRAM-3

B MAIN CIRCUIT

: POSITIVE VOLTAGE LINE
: NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE



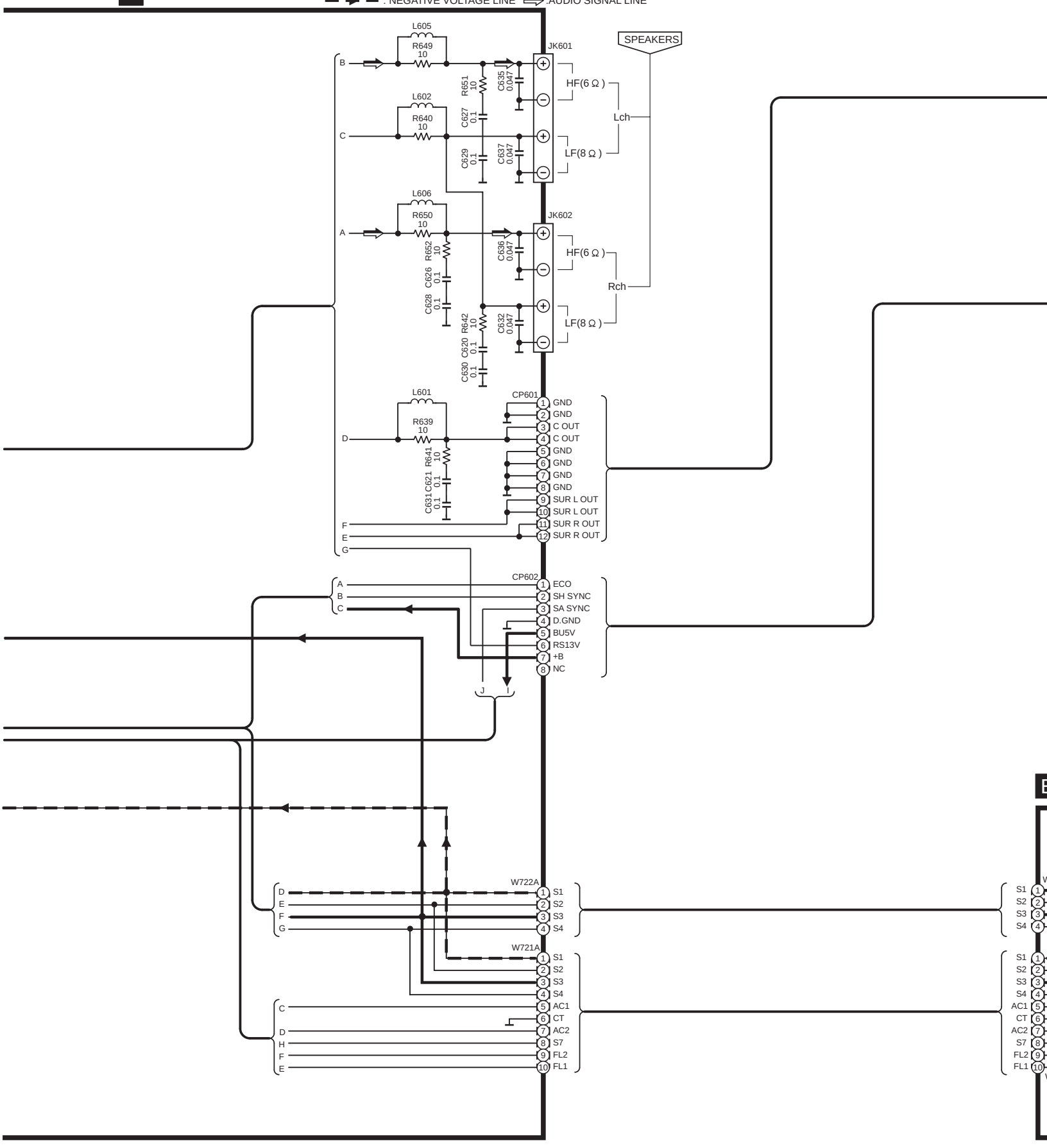


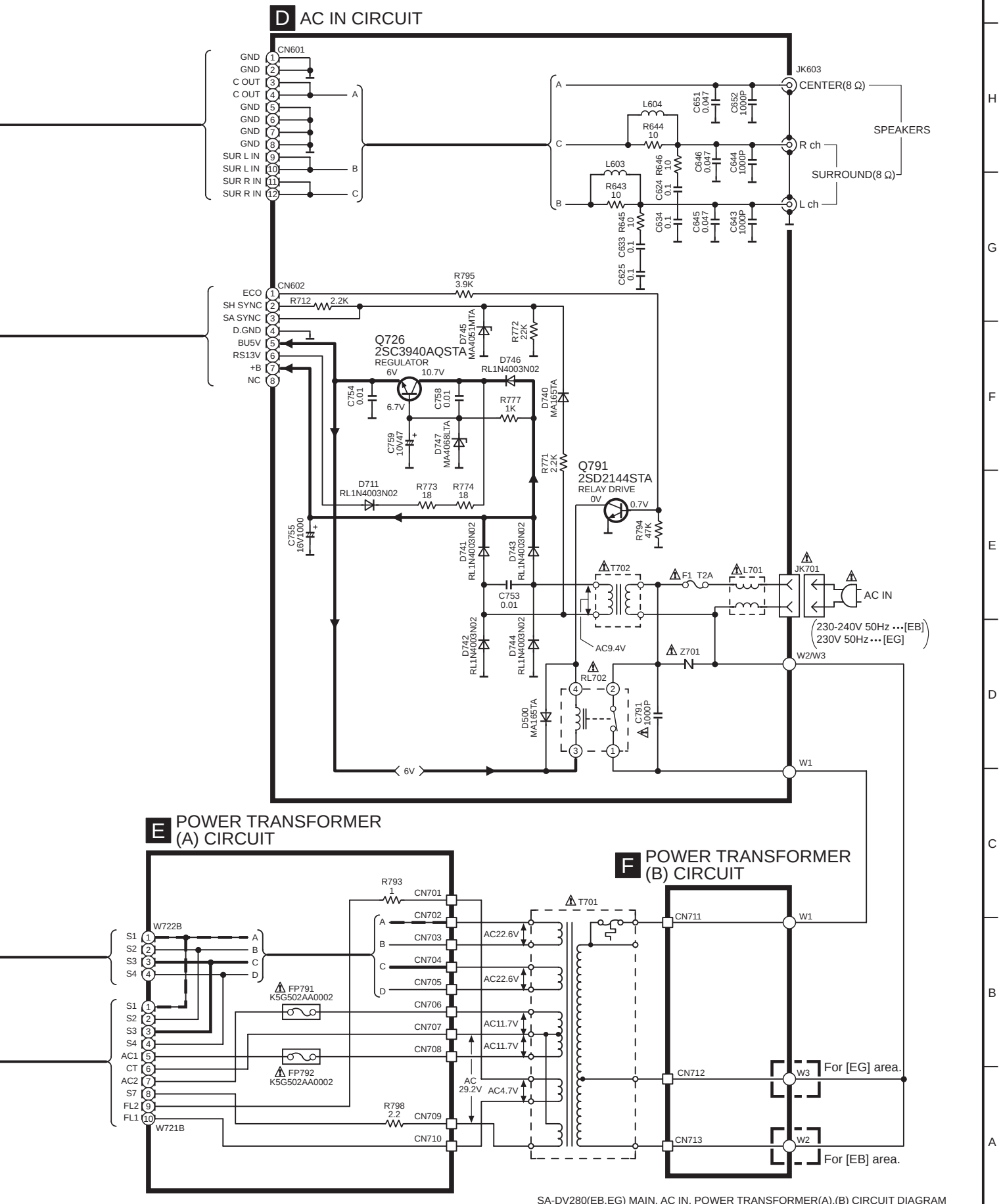
SA-DV280(EB,EG) MAIN,POWER SUPPLY CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

: POSITIVE VOLTAGE LINE
: NEGATIVE VOLTAGE LINE
:AUDIO SIGNAL LINE



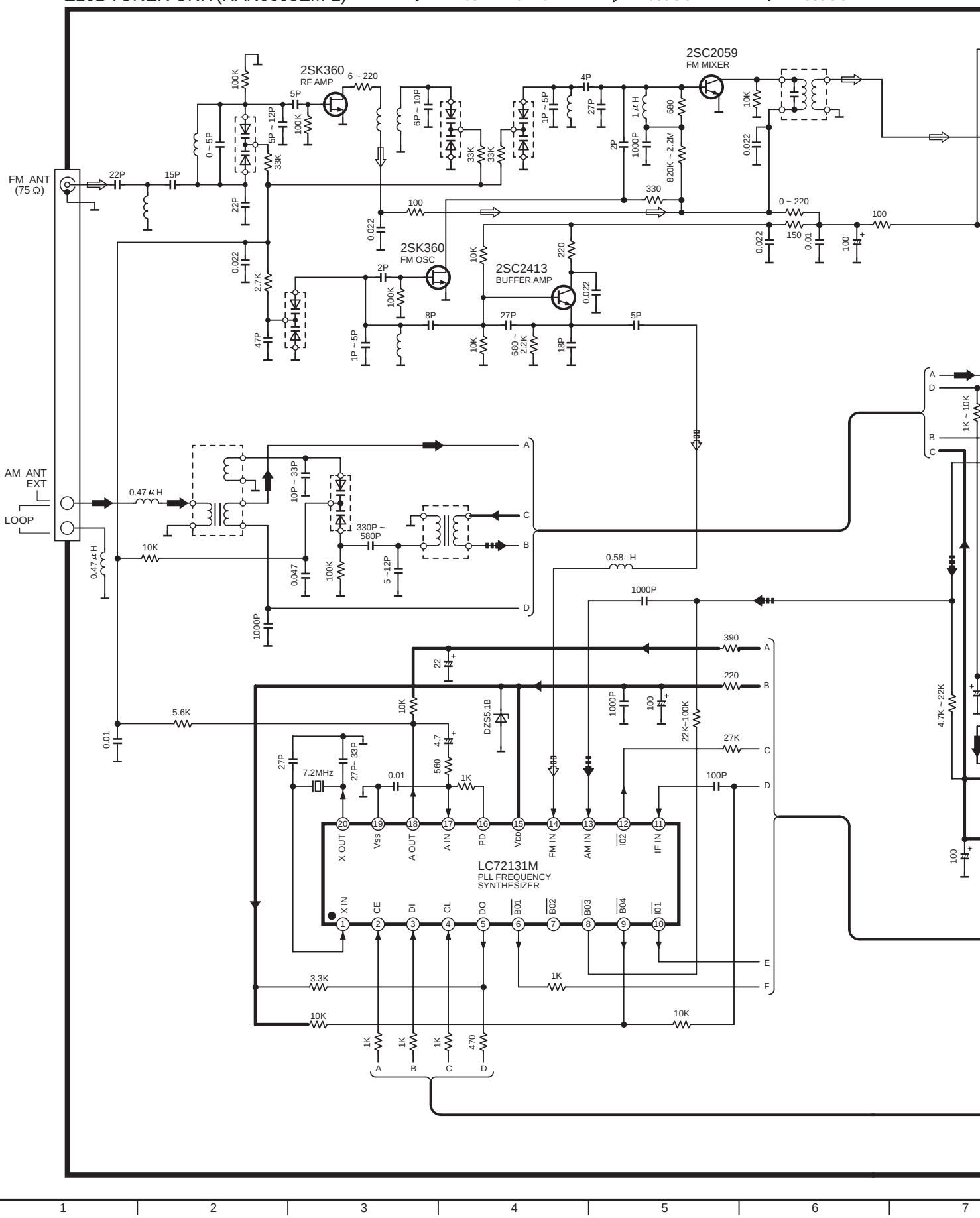


SA-DV280(EB,EG) MAIN, AC IN, POWER TRANSFORMER(A),(B) CIRCUIT DIAGRAM

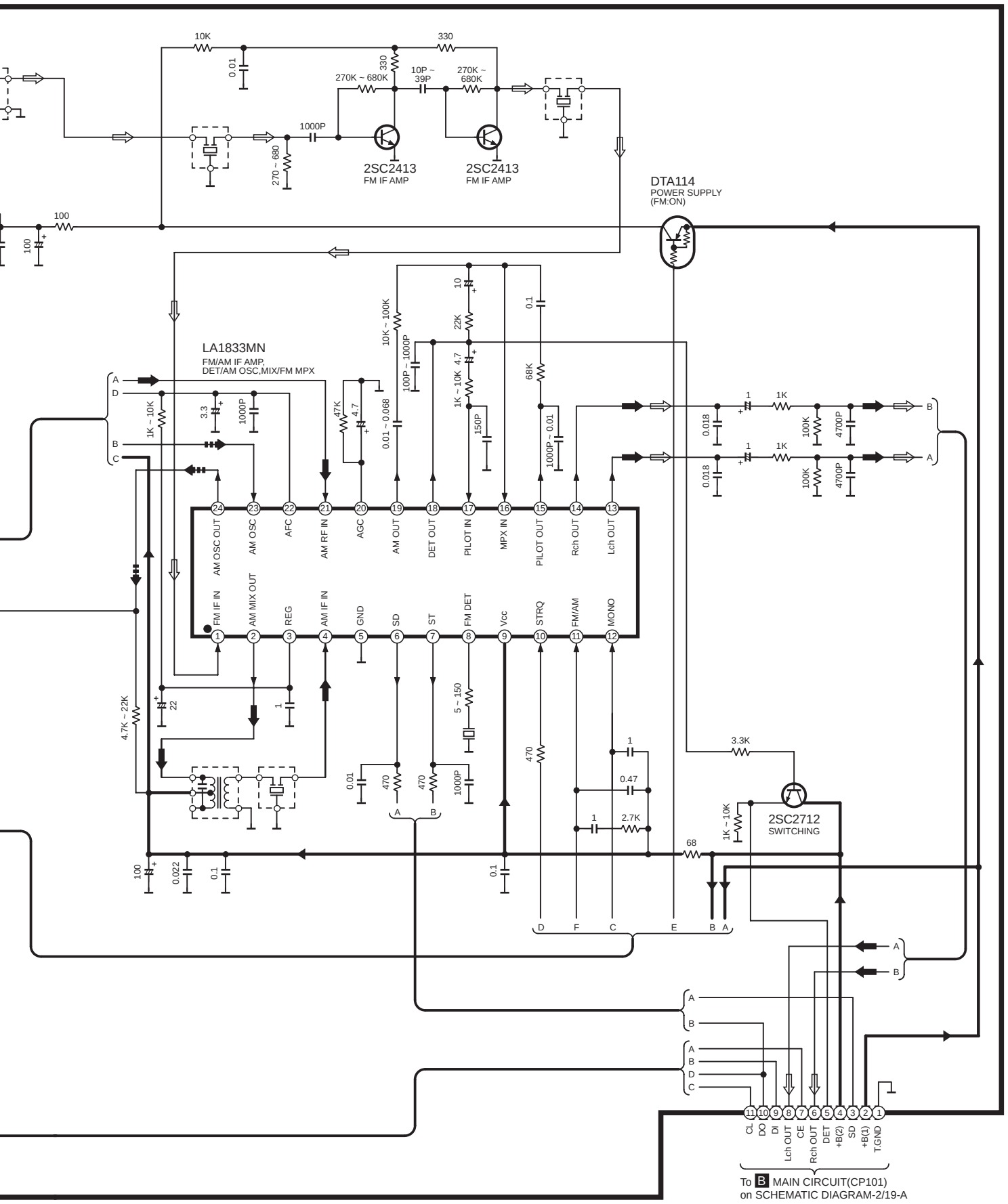
SCHEMATIC DIAGRAM-5

Z101 TUNER UNIT(RAN0005EM-2)

:POSITIVE VOLTAGE LINE
:FM SIGNAL LINE
:FM OSC SIGNAL LINE
:AM SIGNAL LINE
:AM OSC SIGNAL LINE



GNAL LINE
C SIGNAL LINE



SA-DV280(EB,EG) TUNER UNIT CIRCUIT DIAGRAM

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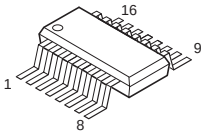
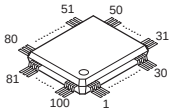
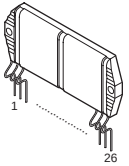


C2BBFD000317



RSN311W64B



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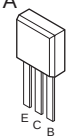
UN4211TA
UN4212TA



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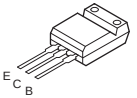

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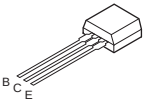

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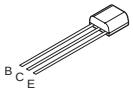

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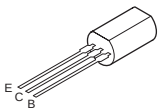

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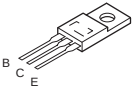

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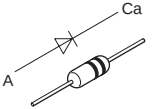

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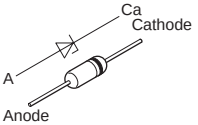
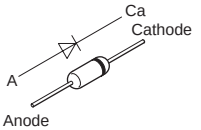


MA165TA



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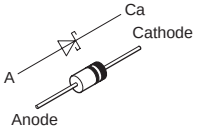

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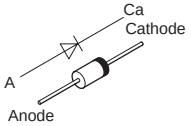

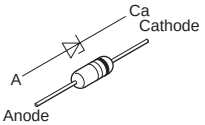

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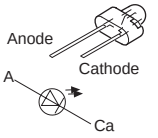
MA4082LTA
MA4091HTA

LNJ301MPUJAD



SELS5223C
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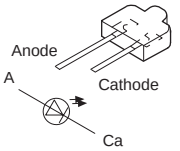
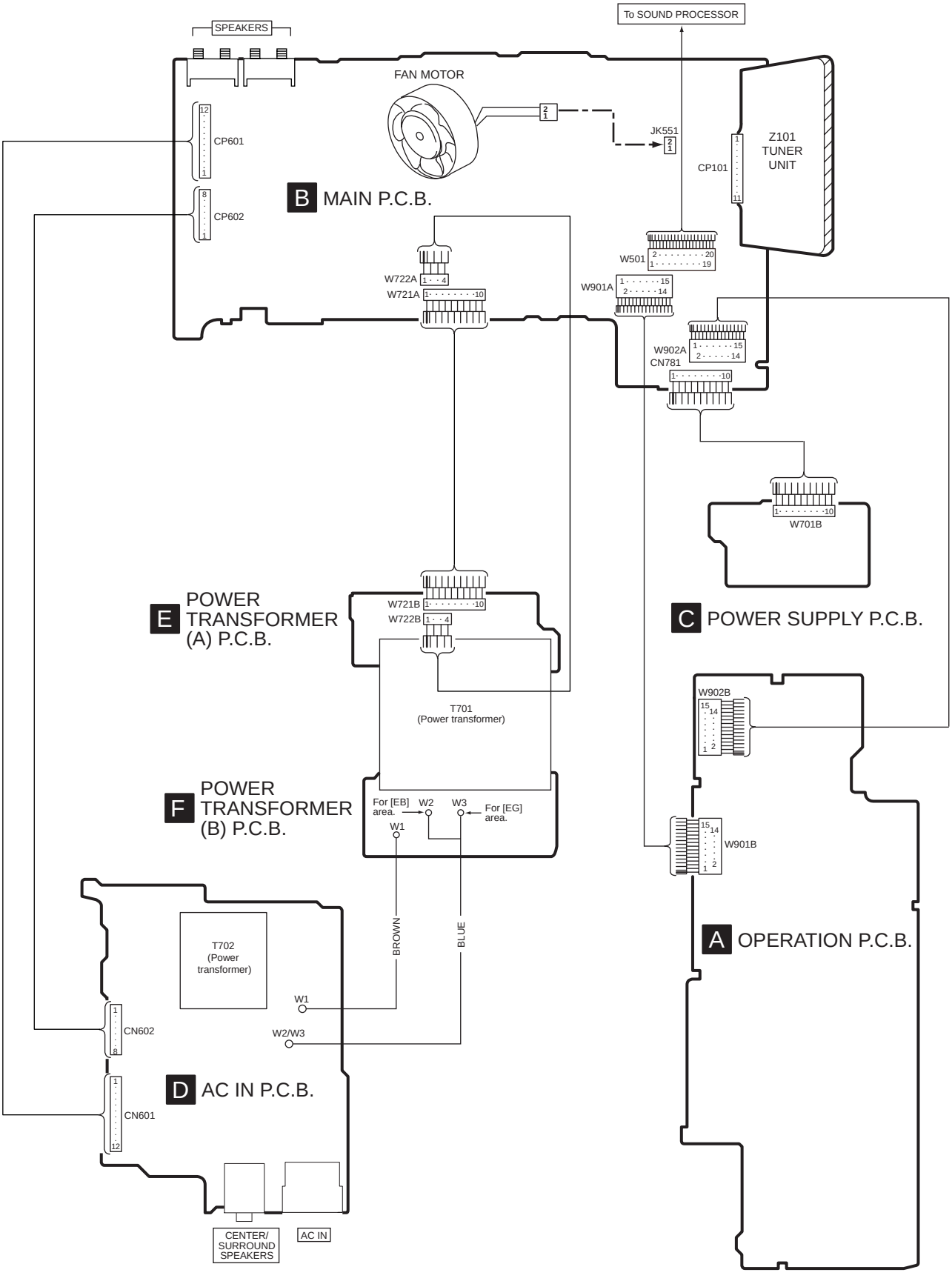



SPEAKERS
To SOUND PROCESSOR
FAN MOTOR
JK551
CP601
CP602
CP101
Z101
TUNER
UNIT
B MAIN P.C.B.
W722A
W721A
W501
W901A
W902A
CN781
W701B
C POWER SUPPLY P.C.B.
E POWER TRANSFORMER (A) P.C.B.
W721B
W722B
T701
(Power transformer)
W902B
F POWER TRANSFORMER (B) P.C.B.
For [EB] area.
W2
W3
For [EG] area.
W1
W901B
A OPERATION P.C.B.
T702
(Power transformer)
BROWN
BLUE
W1
W2/W3
CN602
CN601
D AC IN P.C.B.
CENTER/ SURROUND SPEAKERS
AC IN

(For United Kingdom)

("EB" area code model only)

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ◈ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.
THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:
Blue: Neutral, Brown: Live.
As these colours may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured Black or Blue.
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured Brown or Red.

WARNING: DO NOT CONNECT EITHER WIRE TO THE EARTH TERMINAL WHICH IS MARKED WITH THE LETTER E, BY THE EARTH SYMBOL ⏚ OR COLOURED GREEN OR GREEN/YELLOW.

THIS PLUG IS NOT WATERPROOF - KEEP DRY.

Before use

Remove the connector cover.

How to replace the fuse

The location of the fuse differ according to the type of AC mains plug (figures A and B). Confirm the AC mains plug fitted and follow the instructions below.
Illustrations may differ from actual AC mains plug.

1. Open the fuse cover with a screwdriver.

Figure A

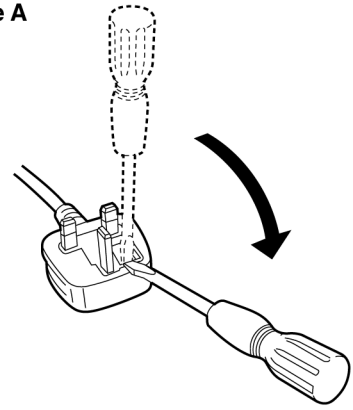
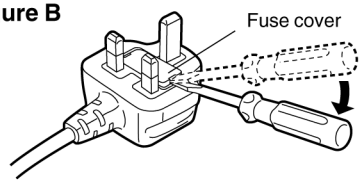


Figure B



2. Replace the fuse and close or attach the fuse cover.

Figure A

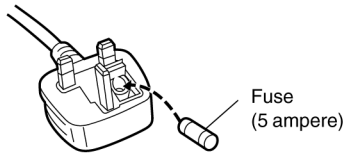
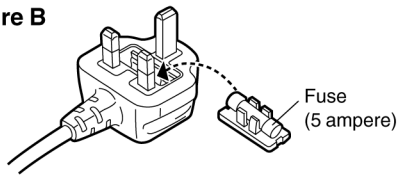
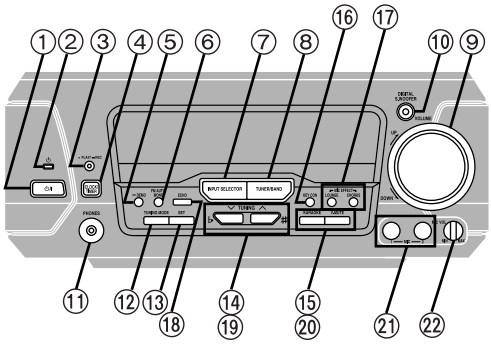


Figure B





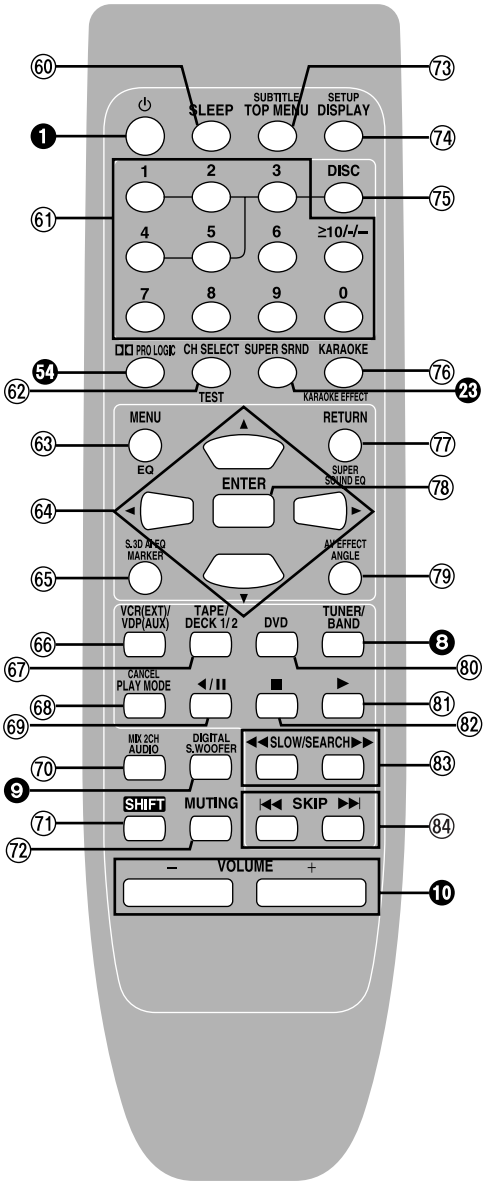
① **Standby/on switch (⏻/I)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.
② **Standby indicator (⏻)**
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.
③ **Play timer/record timer button and indicator (◴PLAY/◴REC)**
④ **Clock/timer button (CLOCK/TIMER)**
⑤ **Demo button (–DEMO)**
⑥ **FM mode button (FM AUTO/MONO)**
⑦ **Source input button (INPUT SELECTOR)**
⑧ **Tuner/band button (TUNER/BAND)**
⑨ **Digital super woofer button and indicator (DIGITAL S.WOOFER)**
⑩ **Volume control (VOLUME)**
⑪ **Headphone jack (PHONES)**
⑫ **Tuning mode button (TUNING MODE)**
⑬ **Set button (SET)**

For the United Kingdom, Continental Europe and Russia

⑭ **Tuning buttons (∨, ∧ TUNING)**
⑮ **RDS display mode button (RDS, PS–DISP MODE–PTY)**

For areas except the United Kingdom, Continental Europe and Russia

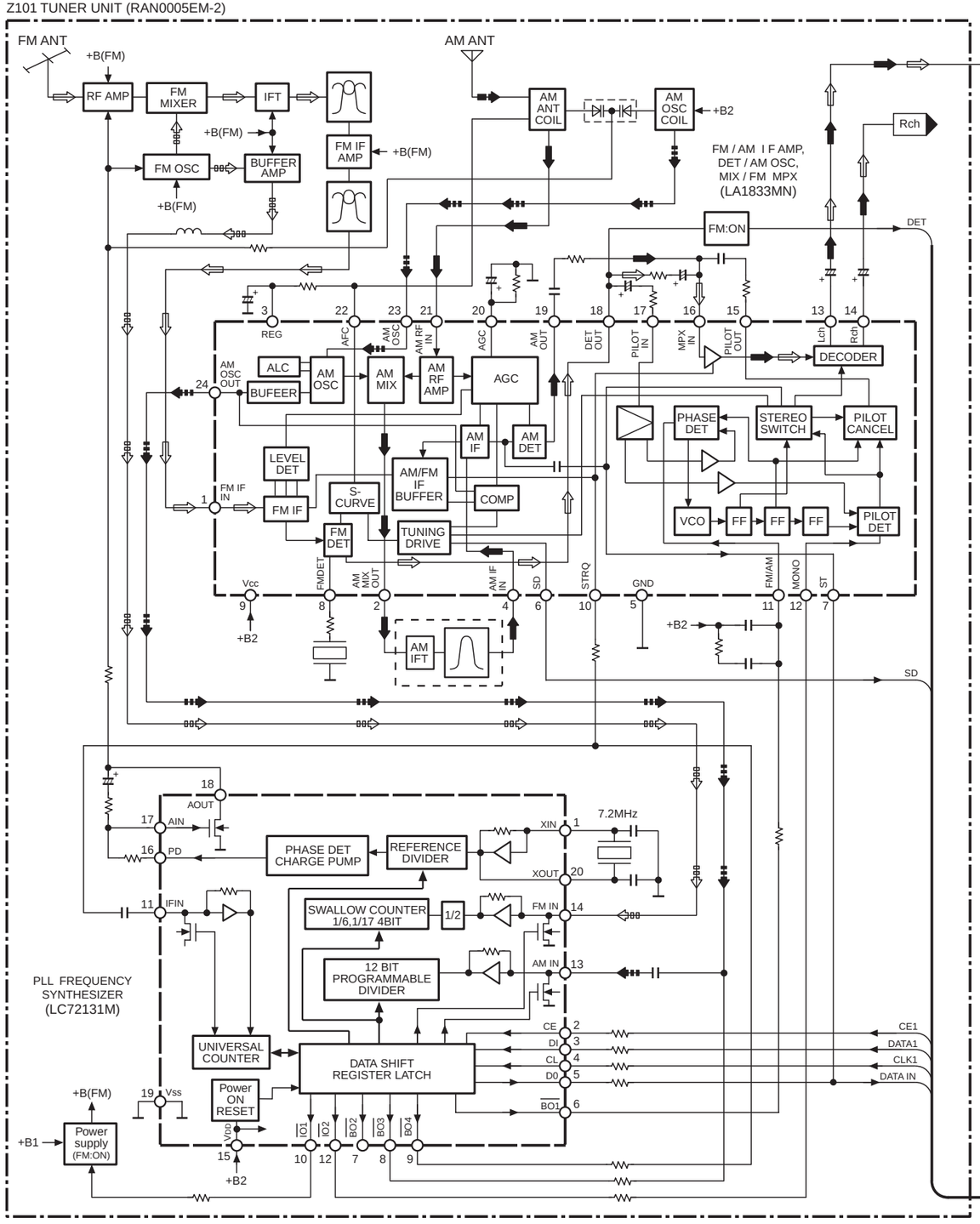
⑯ **Key control button (KEY CON)**
⑰ **MIC effect buttons (MIC EFFECT, LOUNGE, CHORUS)**
⑱ **Echo button (ECHO)**
⑲ **Tuning, Key up/down buttons (∨, ∧ TUNING, ♭, ♯)**
⑳ **KARAOKE, Voice mute buttons (KARAOKE, V.MUTE)**
㉑ **Microphone jacks (1–MIC–2)**
㉒ **Microphone volume control (MIC VOL)**



Buttons ❶, ❽, ❾, ❿, 54 and 55 function in the same way as the controls on the main unit.

60 **Sleep timer button (SLEEP)**
61 **Numbered buttons (1–9, 0, ≥10/-/--)**
62 **Channel select, Test signal button (CH SELECT, TEST)**
63 **Menu, EQ button (MENU, EQ)**
64 **Cursor buttons (◄, ►, ▲, ▼)**
65 **Marker, Super 3D AI EQ button (MARKER, S.3D AI EQ)**
66 **Input select button [VCR (EXT)/VDP (AUX)]**
67 **Tape select, deck 1/deck 2 select button (TAPE/DECK 1/2)**
68 **Play mode, Cancel button (PLAY MODE, CANCEL)**
69 **Disc pause, Tape reverse play button (◄/❚❚)**
70 **Audio select, 2 channel down mixing button (AUDIO, MIX 2CH)**
71 **Shift button (SHIFT)**
To operate functions labeled in orange, press [SHIFT] and then the corresponding button at the same time.
72 **Muting button (MUTING)**
73 **Top menu, Subtitle select button (TOP MENU, SUBTITLE)**
74 **GUI display, Initial setting button (DISPLAY, SETUP)**
75 **Disc button (DISC)**
76 **Except for the United Kingdom, Continental Europe and Russia**
Karaoke, Karaoke effect button (KARAOKE, KARAOKE EFFECT)
77 **Return, Super sound EQ button (RETURN, SUPER SOUND EQ)**
78 **Enter button (ENTER)**
79 **Angle select, AV effect button (ANGLE, AV EFFECT)**
80 **DVD button (DVD)**
81 **Disc play, Tape forward play button (►)**
82 **Disc stop, Tape stop button (■)**
83 **Disc slow/search buttons (◄◄, ►► SLOW/SEARCH)**
84 **Disc skip buttons (|◄◄, ►►| SKIP)**

Z101 TUNER UNIT (RAN0005EM-2)



To SOUND PROCESSOR (SH-DV280) BLOCK DIAGRAM

W501

TUNER L/C
TUNER Rch
A.GND
Lch IN
Rch IN
+B(10V) ← +B5
SUR L
SUR R
S.W
MIC
-B(10V) ← -B3
V.GND
D.GND
CE/REQ
CLK
DATA
CT.GND
SH FL1
SH FL2
SYNC
From POWER TRANSFORMER
SHSYNC

BU4053BCFE2
IC201
SIGNAL SELECTOR

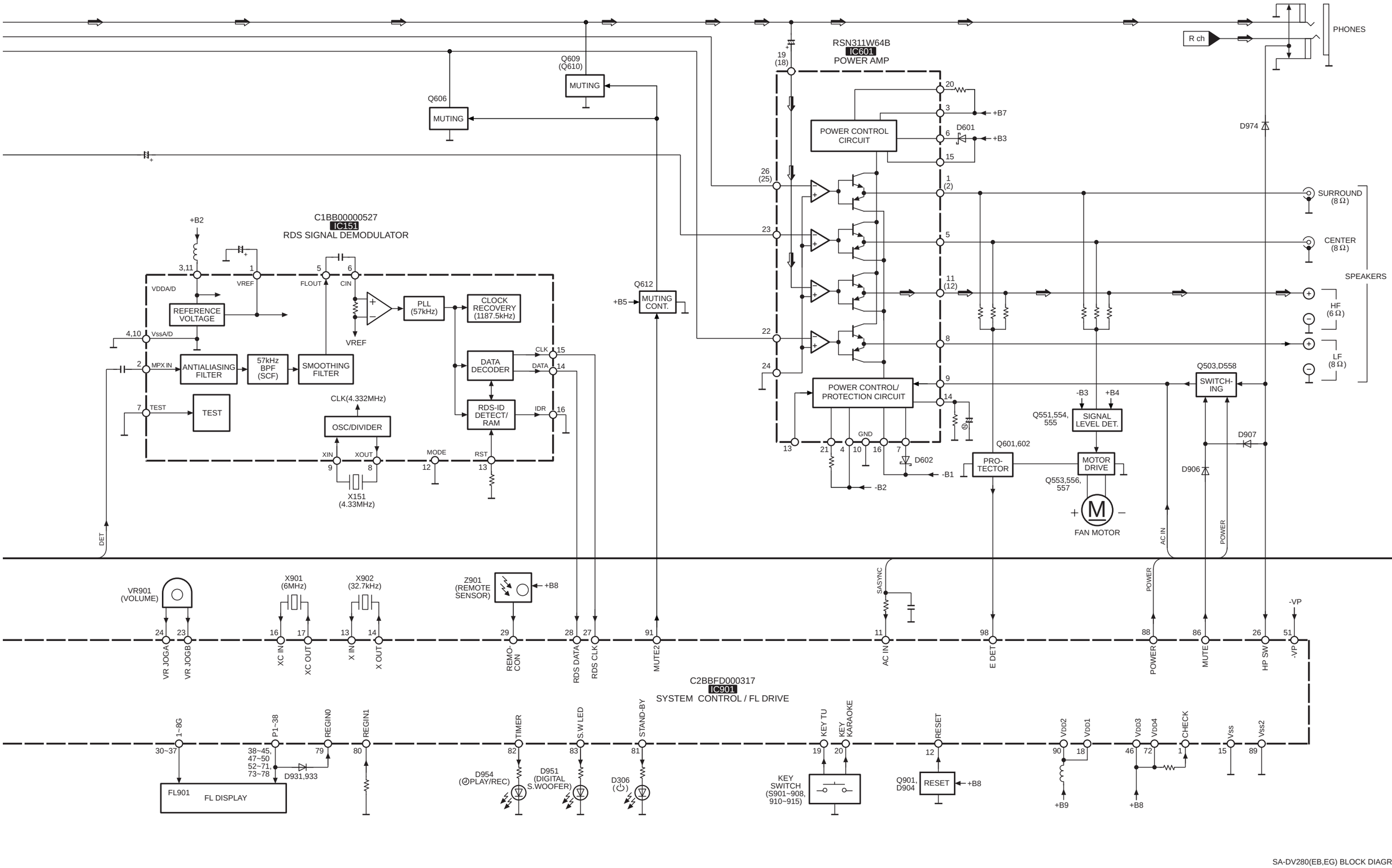
X1
X0
Y1
Y0
SW CONT.
G
+B4 VDD
-B3 VSS
A B C

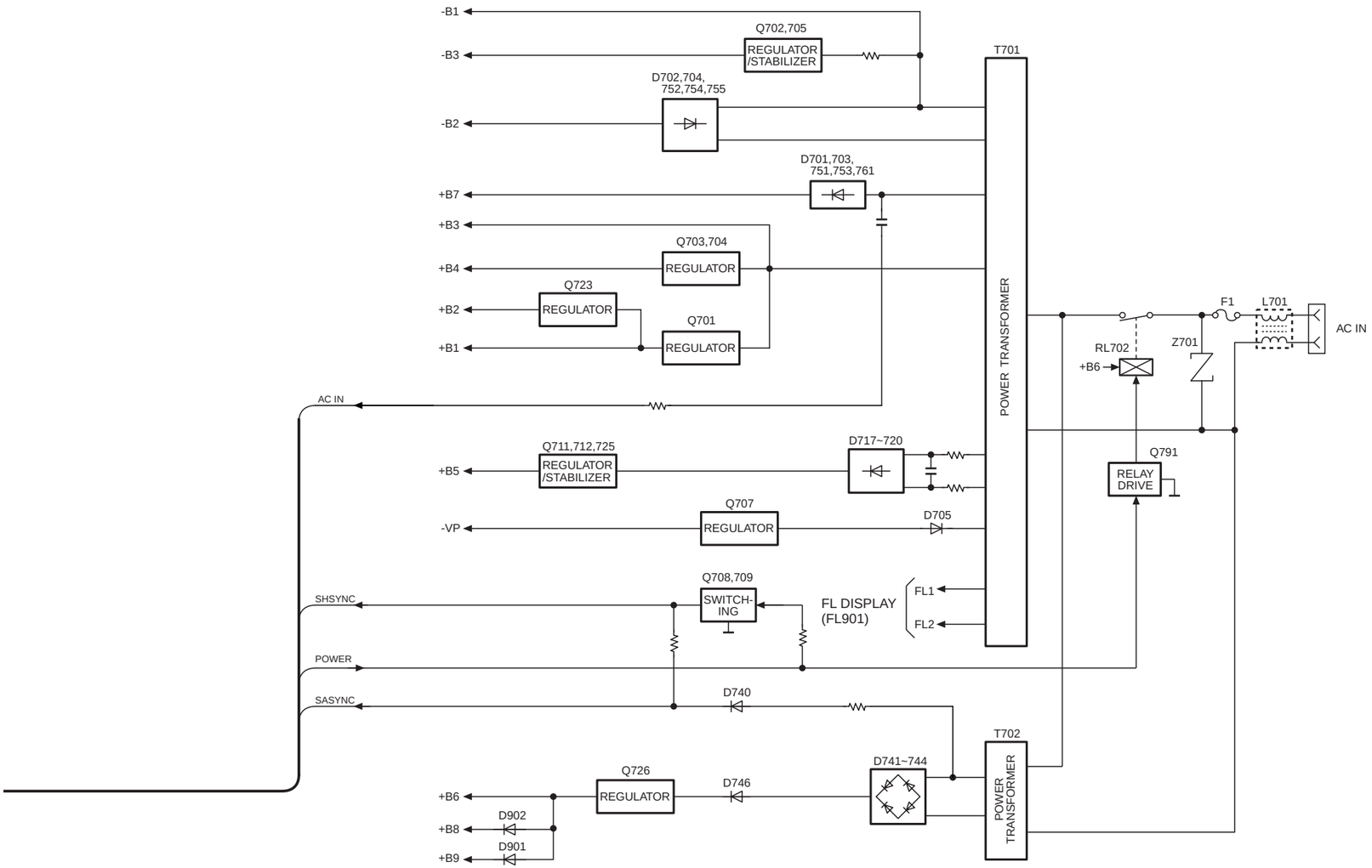
Q607 (Q608)
MUTING
Q605
MUTING
Q902
+B4 MUTING CONT.

C2BBFD000317
IC901
SYSTEM CONTROL / FL DRIVE

SH DI
SH DO
SH CK
SH CS
SH REQ
ST/AV, 6CH
MUTE3
LC72 CE
LC72 DI/ST
LC72 CK
LC72 DO
SD
SEL/ TUNER
MIC DET
+B8

SA-DV280(EB,EG) BLOCK DIAGRAM

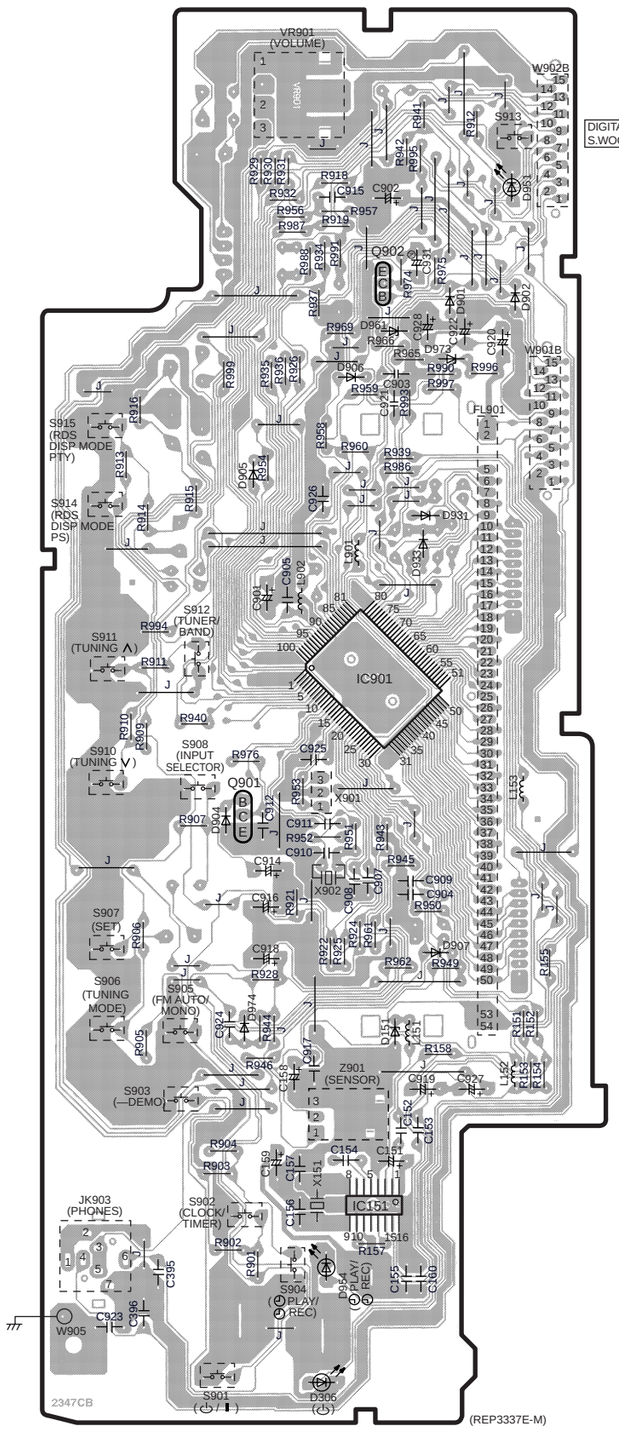

C1BB00000527
IC151
RDS SIGNAL DEMODULATOR
+B2
3,11
VDDA/D
1
VREF
5
FLOUT
6
CIN
REFERENCE VOLTAGE
4,10
VssA/D
2
MPX IN
ANTIALIASING FILTER
57kHz BPF (SCF)
SMOOTHING FILTER
VREF
PLL (57kHz)
CLOCK RECOVERY (1187.5kHz)
DATA DECODER
CLK
15
DATA
14
RDS-ID DETECT/ RAM
IDR
16
7
TEST
TEST
CLK(4.332MHz)
OSC/DIVIDER
XIN
9
XOUT
8
X151
(4.33MHz)
MODE
12
RST
13
DET
Q606
MUTING
Q609
(Q610)
MUTING
Q612
+B5
MUTING CONT.
RSN311W64B
IC601
POWER AMP
19
(18)
POWER CONTROL CIRCUIT
20
3
+B7
6
D601
+B3
15
26
(25)
23
22
24
1
(2)
5
11
(12)
8
9
14
POWER CONTROL/ PROTECTION CIRCUIT
13
21
4
GND
10
16
7
D602
-B1
-B2
Q601,602
PRO-TECTOR
-B3
+B4
Q551,554, 555
SIGNAL LEVEL DET.
MOTOR DRIVE
Q553,556, 557
M
FAN MOTOR
R ch
PHONES
D974
SURROUND (8 Ω)
CENTER (8 Ω)
SPEAKERS
HF (6 Ω)
LF (8 Ω)
Q503,D558
SWITCH-ING
D907
D906
AC IN
POWER
VR901 (VOLUME)
24
23
VR JOGA
VR JOGB
X901 (6MHz)
16
17
XC IN
XC OUT
X902 (32.7kHz)
13
14
X IN
X OUT
Z901 (REMOTE SENSOR)
+B8
29
REMO-CON
28
RDS DATA
27
RDS CLK
91
MUTE2
SASYNC
11
AC IN
98
E DET
POWER
88
POWER
86
MUTE
-VP
26
HP SW
51
-VP
C2BBFD000317
IC901
SYSTEM CONTROL / FL DRIVE
1~8G
30~37
FL901
FL DISPLAY
P1~38
38~45, 47~50 52~71, 73~78
79
D931,933
REGIN0
80
REGIN1
TIMER
82
D954 (PLAY/REC)
S.W LED
83
D951 (DIGITAL S.WOOFER)
STAND-BY
81
D306 ( )
KEY TU
19
KEY KARAOKE
20
KEY SWITCH (S901~908, 910~915)
RESET
12
Q901, D904
RESET
+B8
VDD2
90
VDD1
18
+B9
VDD3
46
VDD4
72
CHECK
1
VSS
15
VSS2
89
+B8



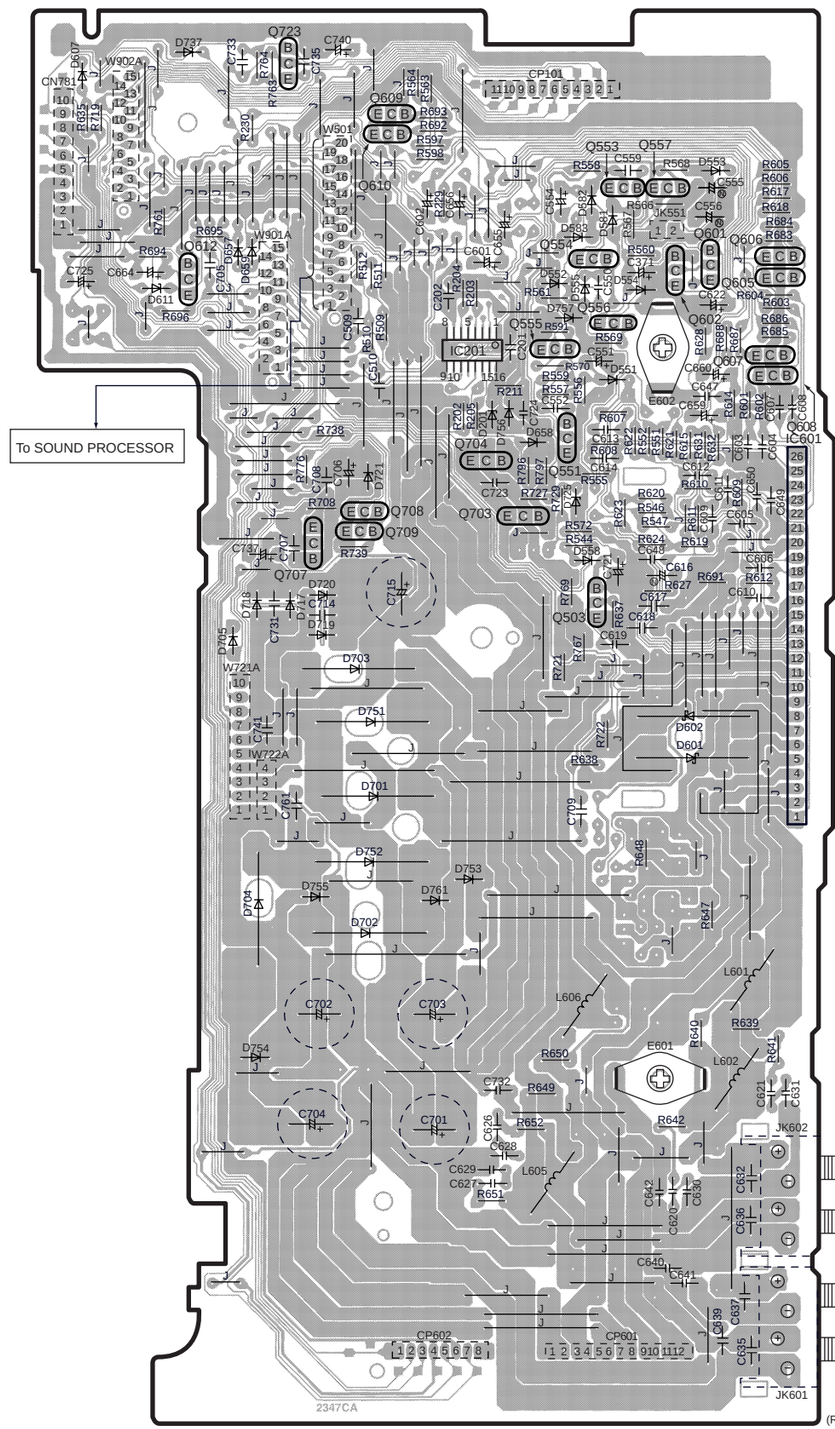
NOTES : ● SIGNAL LINE
: FM SIGNAL
: AM SIGNAL
: FM OSC SIGNAL
: AM OSC SIGNAL
: AUDIO SIGNAL
● ( ) indicates pin No. Right channel.

Note: This printed circuit board diagram may be modified at any time with the development of new technology.

A OPERATION P.C.B.

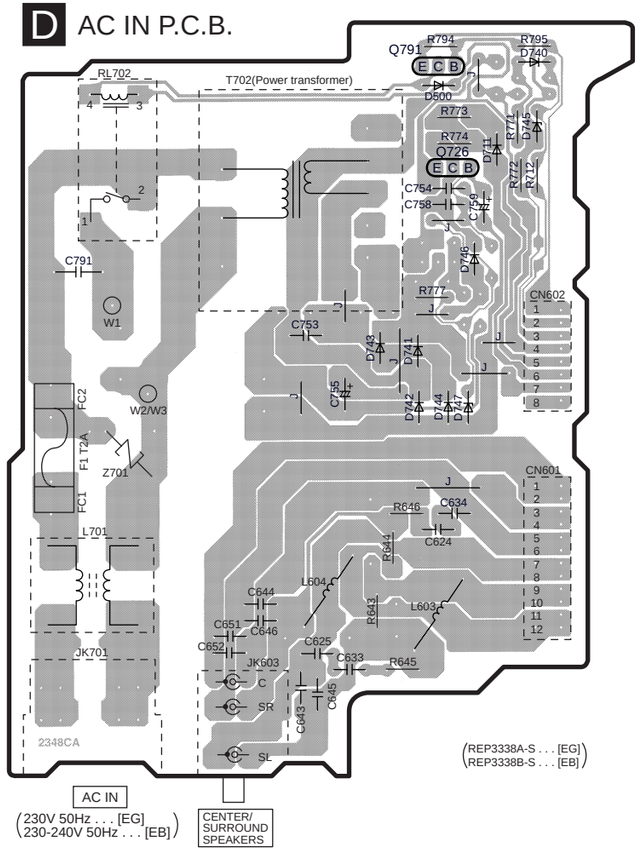


B MAIN P.C.B.

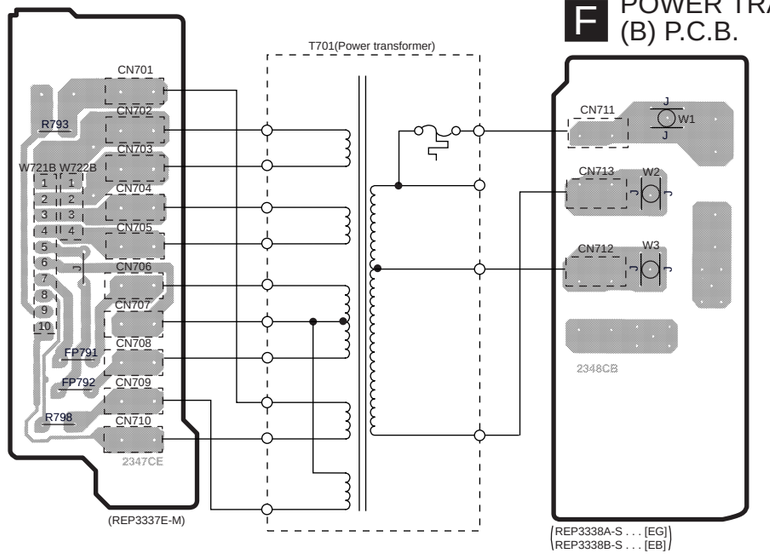


Note: This printed circuit board diagram may be modified at any time with the development of new technology.

D AC IN P.C.B.

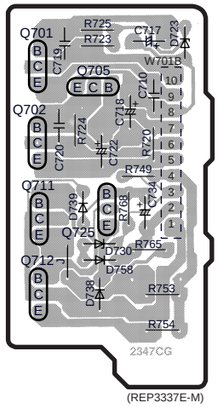


E POWER TRANSFORMER (A) P.C.B.



F POWER TRANSFORMER (B) P.C.B.

C POWER SUPPLY P.C.B.

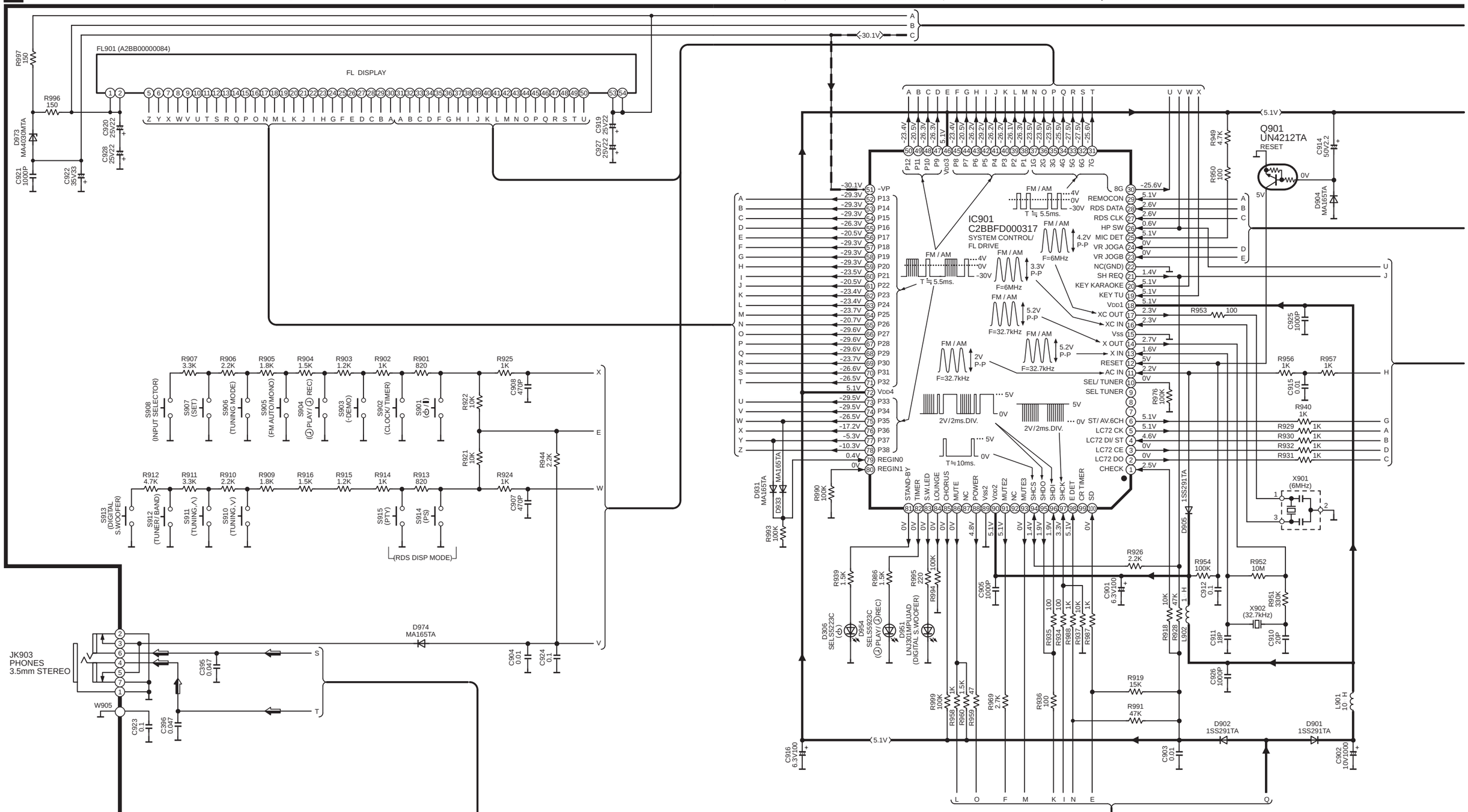


SCHEMATIC DIAGRAM-1

A OPERATION CIRCUIT

NOTE:
The number which noted at the connectors on the schematic diagram as "SCHEMATIC DIAGRAM-1" or "SCHEMATIC DIAGRAM-2" indicates the schematic diagram serial number located on the left corner in the schematic diagram.

: POSITIVE VOLTAGE LINE : NEGATIVE VOLTAGE LINE :AUDIO SIGNAL LINE



SA-DV280(EB,EG) OPERATION CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-2

A OPERATION CIRCUIT

: NEGATIVE VOLTAGE LINE
: POSITIVE VOLTAGE LINE
: FM SIGNAL LINE
: AM SIGNAL LINE
:AUDIO SIGNAL LINE

B MAIN CIRCUIT

5.1V
VR901
EVQVBXFK124B
(VOLUME)
COM B A
R962 22K
R961 22K
C917 0.01
C918 6.3V100
R945 100
R943 100
D E A
C909 1000P
R946 1K
Z901
B3RAD0000028
(REMOTE SENSOR)
R941 1K
Q902
UN411FTA
MUTING CONT.
3.3V
3.3V
R974 1K
R942 2.2K
C931 16V10
0V
7.6V
A B C
W902B
M A B C D E F G H I J K L
D906 MA165TA
D907 MA165TA
-30.1V
W901B
U N O Q
6V
R975 22K
R966 3.9K
R965 3.9K
D961 MA4075MTA
S T
L153 1.1μH
R155 120
D151 MA4051MTA
L152 100μH
IC151
C1BB00000527
RDS SIGNAL
DEMODULATOR
C151 16V10
2.5V VREF
2.5V HPX IN
5.1V VDDA
VSSA
2.5V FL OUT
2.5V C IN
TEST
2.7V X OUT
IDR
2.6V RDCL
2.6V RDDA
0V RST
MODE
5.1V VDDB
VSSB
2.5V X IN
C B
R151 1K
R152 1K
R157 1K
R153 100K
R154 100K
C155 1000P
C153 1000P
C160 1000P
C159 6.3V47
C158 6.3V47
C154 560P
X151
C157 47P
C156 47P
L151 100μH
C152 330P
R158 1K
To SOUND PROCESSOR (SH-DV280)
W501
TUNER Lch/C
TUNER Rch
A.GND
Lch IN
Rch IN
+B(10V)
SUR L
SUR R
S.W
MIC
-B(-10V)
V.GND
D.GND
CS/ REQ
CLK
DATA
CT GND
SH FL1
SH FL2
SYNC
R511 47
R509 47
R512 47
R510 47
10.4V
H G A B
A B C D
B E F G
W902A
C D E F G E F J K
W901A
L M I
A B C
CP101
To TUNER UINT on SCHEMATIC DIAGRAM-5/11,12-A
T.GND
+B(1)
SD
+B(2)
DET
Rch IN
CE
Lch IN
DI
DO
CL
R230 1K
R229 1K
7.2V
7.6V
10.4V
R597 2.2K
R598 2.2K
R563 2.7K
R564 2.7K
C659 16V10
C660 16V10
R615 4.7K
R631 3.9K
R614 4.7K
R632 3.9K
A B
R203 100K
R204 100K
C202 0.1
0V
-10.4V
IC201
BU4053BCFE2
SIGNAL SELECTOR
Y1 Y0 Z1 Z0 INH Vss G
VDD X1 X0 A B C
5.7V
R211 270
D201 MA4056MTA
C201 0.1
R205 100K
R202 100K
C601 16V10
R617 4.7K
H G F
R603 3.3K
C656 16V10
R688 1.5K
C655 16V10
R687 1.5K
C602 16V10
R695 470
R605 4.7K
R606 4.7K
D611 MA4051MTA
C E B D A
Q605,606
2SD2144STA
MUTING
0.7V
Q605
-10V
Q606
4.9V
5.1V
-10.2V
R683 1K
R684 1K
R696 47K
Q612
UN411FTA
MUTING CONT.
Q707
2SB1417PQTA
REGULATOR
-30.1V
-37.3V
-30.7V
C708 0.047
C707 0.047
R708 4.7K
C737 50V100
C706 35V10
D721 MA4300MTA
Q609,610
2SD2144STA
MUTING
A B C
Q609
Q610
R693 1K
R692 1K
R694 22K
C509 0.01
C510 0.01
C664 16V10
C725 16V47
Q723
2SC3940AQSTA
REGULATOR
7.2V
14.7V
7.8V
C735 0.047
C733 0.047
R764 330
R763 4.7K
C740 16V10
D737 MA4082LTA
D705 RL1N4003N02
D718 RL1N4003N02
D717 RL1N4003N02
D720 RL1N4003N02
D719 RL1N4003N02
C731 1000P
C741 0.1
C714 1000P
C715 25V6800
H A D C
14.7V

SA-DV280(EB,EG) OPERATION, MAIN CIRCUIT DIAGRAM

SCHEMATIC DIAGRAM-3
B MAIN CIRCUIT

: POSITIVE VOLTAGE LINE
: NEGATIVE VOLTAGE LINE
:AUDIO SIGNAL LINE

IC601
RSN311W64B
POWER AMP

Q607
Q608 Q607, 608
2SD2144STA
MUTING

Q601,602
2SC5398RSTA
PROTECTOR

Q503
2SC5398RSTA
SWITCHING

Q708
UN4211TA
SWITCHING
(POWER)

Q709
2SD2144STA
SWITCHING
(POWER)

Q556
2SC5398RSTA
SWITCHING

Q551
2SA1995RSTA
SIGNAL LEVEL DET.

Q555
2SD2144STA
SIGNAL LEVEL DET.

Q557
2SA1995RSTA
MOTOR DRIVE

Q554
2SA1995RSTA
SIGNAL LEVEL DET.

Q553
2SD2144STA
MOTOR DRIVE

FAN MOTOR

Q704
Q703,704
2SD2137PQTA
REGULATOR

Q703
REGULATOR

Q725
2SC5398RSTA
STABILIZER

Q705
2SA1995RSTA
STABILIZER

Q711,712
2SB1548PQAU
REGULATOR

Q712
Q711

Q702
2SB1548PQAU
REGULATOR

Q701
2SD2374PQAU
REGULATOR

C POWER SUPPLY CIRCUIT

SA-DV280(EB,EG) MAIN,POWER SUPPLY CIRCUIT DIAGRAM

25 26 27 28 29 30 31 32 33 34 35 36

SCHEMATIC DIAGRAM-4

B MAIN CIRCUIT

: POSITIVE VOLTAGE LINE
: NEGATIVE VOLTAGE LINE
:AUDIO SIGNAL LINE

SPEAKERS
Lch
Rch
HF(6 Ω)
LF(8 Ω)

L605 R649 10 — JK601
L602 R640 10 — C635 0.047, R651 10, C627 0.1, C629 0.1, C637 0.047
L606 R650 10 — JK602
C636 0.047, R652 10, C626 0.1, C628 0.1, C632 0.047, R642 10, C620 0.1, C630 0.1
L601 R639 10 — C631 0.1, C621 0.1, R641 10

CP601: GND, GND, C OUT, C OUT, GND, GND, GND, GND, SUR L OUT, SUR L OUT, SUR R OUT, SUR R OUT

CP602: ECO, SH SYNC, SA SYNC, D.GND, BU5V, RS13V, +B, NC

W722A: S1, S2, S3, S4
W721A: S1, S2, S3, S4, AC1, CT, AC2, S7, FL2, FL1

D AC IN CIRCUIT

CN601: GND, GND, C OUT, C OUT, GND, GND, GND, GND, SUR L IN, SUR L IN, SUR R IN, SUR R IN

JK603: CENTER(8 Ω), R ch, L ch — SPEAKERS, SURROUND(8 Ω)
L604 R644 10 — C651 0.047, C652 1000P, C646 0.047, C644 1000P
L603 R643 10 — R646 10, C624 0.1, C645 0.047, C643 1000P
R645 10, C633 0.1, C634 0.1, C625 0.1

CN602: ECO, SH SYNC, SA SYNC, D.GND, BU5V, RS13V, +B, NC
R712 2.2K, R795 3.9K
Q726 2SC3940AQSTA REGULATOR 6V 10.7V 6.7V
D745 MA4051MTA, R772 22K, D746 RL1N4003N02
C754 0.01, C758 0.01, R777 1K, D740 MA4051A
C759 10V47, D747 MA4068LTA
R771 2K
Q791 2SD2144STA RELAY DRIVE 0V 0.7V, R794 47K
D711 RL1N4003N02, R773 18, R774 18
C755 16V1000
D741 RL1N4003N02, D743 RL1N4003N02, C753 0.01
D742 RL1N4003N02, D744 RL1N4003N02
T702, F1 T2A, L701, JK701, AC IN
230-240V 50Hz ···[EB]
230V 50Hz ···[EG]
AC9.4V, Z701, W2/W3
RL702, D500 MA1657A, C791 1000P
6V, W1

E POWER TRANSFORMER (A) CIRCUIT

W722B: S1, S2, S3, S4
W721B: S1, S2, S3, S4, AC1, CT, AC2, S7, FL2, FL1
FP791 K5G502AA0002
FP792 K5G502AA0002
R793 1, R798 2.2
CN701, CN702, CN703, CN704, CN705, CN706, CN707, CN708, CN709, CN710

F POWER TRANSFORMER (B) CIRCUIT

T701
AC22.6V, AC22.6V, AC11.7V, AC11.7V, AC 29.2V, AC4.7V
CN711, CN712, CN713
W1, W3, W2
For [EG] area.
For [EB] area.

SA-DV280(EB,EG) MAIN, AC IN, POWER TRANSFORMER(A),(B) CIRCUIT DIAGRAM

37 38 39 40 41 42 43 44 45 46 47 48
H G F E D C B A